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INVESTIGATION INTO THE DOWNING OF AN IRANIAN AIRLINER BY THE U.S.S. "VINCENNES"

HEARING

BEFORE THE

COMMITTEE ON ARMED SERVICES
UNITED STATES SENATE

ONE HUNDREDTH CONGRESS

SECOND SESSION

SEPTEMBER 8, 1988

Printed for the use of the Committee on Armed Services

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INVESTIGATION INTO THE DOWNING OF AN IRANIAN AIRLINER BY THE U.S.S. "VINCENNES"

THURSDAY, SEPTEMBER 8, 1988

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

The committee met, pursuant to notice, at 9:34 a.m., in room SH-216, Hart Senate Office Building, Senator Sam Nunn (chairman) presiding.

Present: Senators Nunn, Stennis, Exon, Levin, Kennedy, Wirth, Warner, Thurmond, Cohen, Gramm, and McCain.

Staff present: Arnold L. Punaro, staff director; Carl M. Smith, staff director for the minority; Romie L. Brownlee, deputy staff director for the minority; Patrick A. Tucker, minority counsel; Marie Fabrizio Dickinson, assistant chief clerk; Judith A. Freedman, George K. Johnson, Jr., Ronald P. Kelly, James R. Locher III, Norman G. Mosher, and Mark B. Robinson, professional staff members; Tiffany E. Berger, Barbara B. Brown, Lori M. Jackson, Mary J. Kampo, and Mickie Jan Wise, staff assistants.

Also present: Jeffrey B. Subko, assistant to Senator Exon; William J. Lynn, assistant to Senator Kennedy; Milton D. Beach and Donald A. Mitchell, assistants to Senator Glenn; Leon Fuerth, assistant to Senator Gore; Terrence M. Lynch, assistant to Senator Shelby; Dale F. Gerry and Christopher Mellon, assistants to Senator Cohen; Mark J. Albrecht, assistant to Senator Wilson; Anthony H. Cordesman, assistant to Senator McCain.

OPENING STATEMENT BY SENATOR SAM NUNN, CHAIRMAN

Chairman NUNN. The committee will come to order.

On July 3, the U.S.S. *Vincennes,* an Aegis cruiser operating in the southern Persian Gulf, downed Iran Air flight 655. An investigation of this tragic accident was undertaken by a team of military officers from the U.S. Central Command, which exercises operational command of U.S. military forces in the Persian Gulf.

The report of that investigation, endorsed by the Commander in Chief of the U.S. Central Command, the Chairman of the Joint Chiefs of Staff, and the Secretary of Defense, was publicly released in unclassified form on August 19. The committee meets this morning to receive testimony on this investigation report and on the performance of the Aegis combat system.

The committee had intended to hold this hearing at the Aegis Combat System Center at Wallops Island, VA. There the committee would have reviewed a reconstruction of the events and the flow of information that led to the airliner shootdown. Unfortunately, because of floor activity this morning, we had to cancel that visit—we hope to do that at some point in the future—and we have instead had the hearing here.

We appreciate very much, Admiral, you and the Department of Defense, all of you, being willing to shift on late notice, which was not until yesterday afternoon. We just could not avoid making that shift.

The committee is conducting this hearing as part of its broad oversight responsibilities relating to activities of the Department of Defense. The principal purposes of the hearing are to ensure that a comprehensive and objective investigation of this incident has been conducted by the Department of Defense; to assess the performance of the Aegis combat system; to ensure that the appropriate lessons have been learned from this incident, especially those concerning the conduct of military operations in low-intensity conflict environments; and to ensure that any necessary changes in hardware, procedures, training and personnel policies have been identified for implementation, of course, if there are such indications that changes are needed.

The committee's witnesses this morning are the three military officers who have considerable operational and technical expertise on the issues that are central to the investigation report. On behalf of the entire committee I extend a warm welcome to Rear Adm. Robert J. Kelly, U.S. Navy, Vice Director for Operations, Joint Staff; Rear Adm. William M. Fogarty, U.S. Navy, Director of Policy and Plans, U.S. Central Command, and head of the investigative team; and Capt. George N. Gee, U.S. Navy, Director of the Surface Combat Systems Division, Office of the Chief of Naval Operations, and also an expert on the Aegis combat system.

Admiral Fogarty will first summarize the results of the investigation. Admiral Kelly will then discuss the review of the investigative report by higher authority within the Department of Defense, and following these presentations, members will have an opportunity to question all three witnesses.

The committee understands that investigating officers traditionally do not publicly present the results of their investigation. In this instance, however, the report itself has been made public, so therefore, I think it is appropriate for the investigating officer to assist the committee's review of this public document.

Before hearing from Admiral Fogarty, I would like to yield to Senator Warner for any comments he would like to make at this time.

Senator Warner.

Senator **Warner**. Thank you, Mr. Chairman. I join you in welcoming our witnesses this morning.

During the course of my questions I will press on two points, providing you have not covered both points in the direct testimony, and both of these points I have made in prior public statements about this tragic incident.

Number one, did we inject this ship into a situation which was really a mission impossible? Namely, we were confronted with political-military decisions and trying, at the same time to defend this ship in an environment which essentially was a peacetime environment, except during those intense periods when enemy forces convert it to a wartime environment.

Commercial air traffic and commercial seafaring traffic was present at all times, and yet this ship had to stand guard 24 hours a day on an alert status which demanded such that it defend itself or others in the course of its mission. Is that a situation that was just impossible?

We need to focus on this question as we continue to utilize our Armed Forces throughout the world, frankly in comparable situations; more and more, the cause of freedom must be defended under scenarios which are totally unlike World War II and other subsequent military engagements where there has been a clearer definition between the bad guys and the good guys.

The second question relates to the captain of the ship and the traditions of the Navy. I have said publicly many times and indeed the chairman and I joined on a number of talk shows and other means of communication, and we, at least certainly I did, steadfastly defended the captain's actions. I think this report confirms those earlier judgments by a number of us.

On the other hand, the doctrine that the captain is responsible for the ship is one that goes back to the earliest times of seafaring men. And I do not doubt that that doctrine has prevented many, many accidents and other situations harmful to crew or to others throughout the history of our Navy and other navies. I wonder if that doctrine in any way has been changed or should be changed because of the facts of this case.

I say that most sincerely—should it be changed in view of the technological nature of warfare today, and the complexity of the instruments of offense and defense that are under the command of a captain of a modern ship?

Thank you, gentlemen.

Chairman NUNN. Senator Cohen or Senator McCain, do either of you have any opening comments?

Senator COHEN. Mr. Chairman, my understanding is that the Navy has a half-hour presentation to make, and so I would waive some cosmic questions that I intend to ask during the course of the hearing.

Senator MCCAIN. No, thank you, Mr. Chairman.

Chairman NUNN. Admiral, why don't you lead off? We will accord you full attention here until you complete your presentation because we know the time sequences are important. We will not interrupt you for questions. Then, after you complete your presentation, we will go ahead with Admiral Kelly, and then we will come back for questions.

STATEMENT OF REAR ADM. WILLIAM M. FOGARTY, USN, DIRECTOR OF POLICY AND PLANS, U.S. CENTRAL COMMAND, AND HEAD OF THE INVESTIGATION TEAM, ACCOMPANIED BY CAPT. GEORGE N. GEE, USN, DIRECTOR, SURFACE COMBAT SYSTEMS DIVISION, OFFICE OF THE CHIEF OF NAVAL OPERATIONS AND CAPT. RICHARD D. DeROBES, LEGAL ADVISER AND LEGISLATIVE ASSISTANT TO THE CHAIRMAN OF THE JOINT CHIEFS OF STAFF

REPORT OF THE INVESTIGATION ON THE IRAN AIR 655 ACCIDENT

Admiral FOGARTY. Thank you, Mr. Chairman, members of the committee. I appreciate the opportunity to appear before you this morning and brief you on the results of the investigation of the incident, and in lieu of a statement for the record I would submit the briefing which I am about to give.

As the chairman has stated, the people at the table with me here are Admiral Kelly, who is Deputy Director for Operations of the Joint Chiefs of Staff, and Captain (Admiral-select), Gee, who serves on the staff of the Chief of Naval Operations.

BRIEFING OUTLINE

Synopsis of facts.
Aegis description.
Engagement sequence.
Fundamental considerations.
Investigation results.
Actions to improve air safety.

The purpose of this brief is to outline the findings of the investigation which I headed and to answer any questions regarding the investigation. The contents of the briefing are shown on the viewgraph. I will summarize the facts, outline in simple terms some aspects of the Aegis weapon system, describe the engagement itself, review some fundamental but critical considerations pertinent to the accident, discuss the findings of the investigation, and finally I will highlight actions taken by the Department of Defense to prevent a recurrence of this tragic accident.

SYNOPSIS OF FACTS

IRAN AIR ACTUAL FLIGHT PROFILE

Always ascending.
Only mode III IFF squawk.
Within airway amber 59.
Maximum airspeed of 385 kts.

I believe a quick review of the facts as we now know them will help establish the framework for this briefing.

After an exhaustive reconstruction of the event, we now know that Iran Air Flight 655 was in fact always ascending in altitude and squawked only a Mode III signal on IFF, which is characteristic of a civilian aircraft. Iran Air 655 always flew inside the commercial airway, Amber 59. Flight 655 attained a maximum air speed of 385 knots, and during my further description of the engagement sequence I will try to explain how these facts were misinterpreted.

AEGIS WEAPON SYSTEM PERFORMANCE

No Aegis weapon systems equipment deficiences existed during the engagement. *Vincennes'* Link-11 interface was down for 28 seconds during the engagement sequence.

One unique attribute of the Aegis weapon system is its ability to record an enormous amount of technical data, which has been carefully analyzed. Later in the brief I will show still photographs of the tactical displays of the *Vincennes* tapes. From that analysis I, as the investigating officer, and with my team concluded that the Aegis weapon system performed as it was designed.

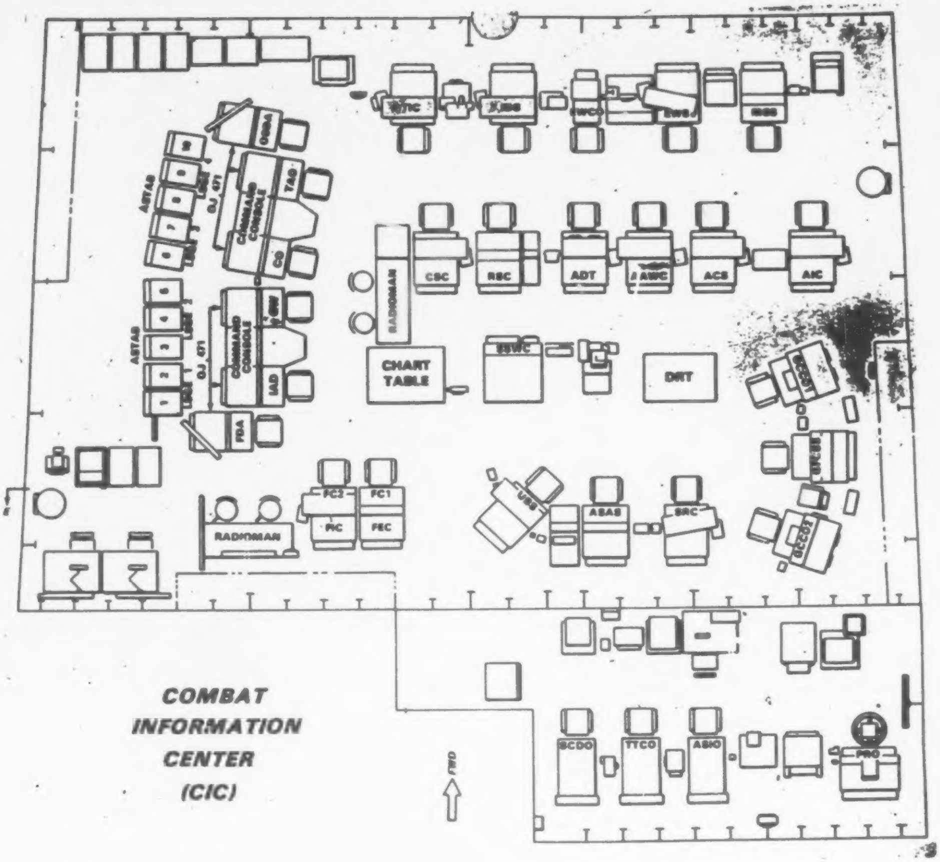
The only technical hitch occurred when the tactical data link used to automatically exchange information between other units was interrupted for 28 seconds. This is the Link 11. However, this interruption had no impact on the *Vincennes'* overall performance.

PERSONNEL PERFORMANCE

With little time and under combat stress during a surface engagement, watchstanders misinterpreted some tactical information.

As both the Secretary of Defense and the Chairman of the Joint Chiefs of Staff have stated, no combat action is error-free. I certainly agree with that. In this case we now know that some tactical information was misinterpreted by people engaged in combat, who were forced to make key judgments in a very short period of time.

In this case, the commanding officer honestly felt that his ship and crew could be attacked by an aircraft operating from a civilian/military airfield while he was engaged in a surface battle with Iranian gunboats.


ASTAS
OJ 471
COMMAND CONSOLE
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RADIOMAN
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CSC
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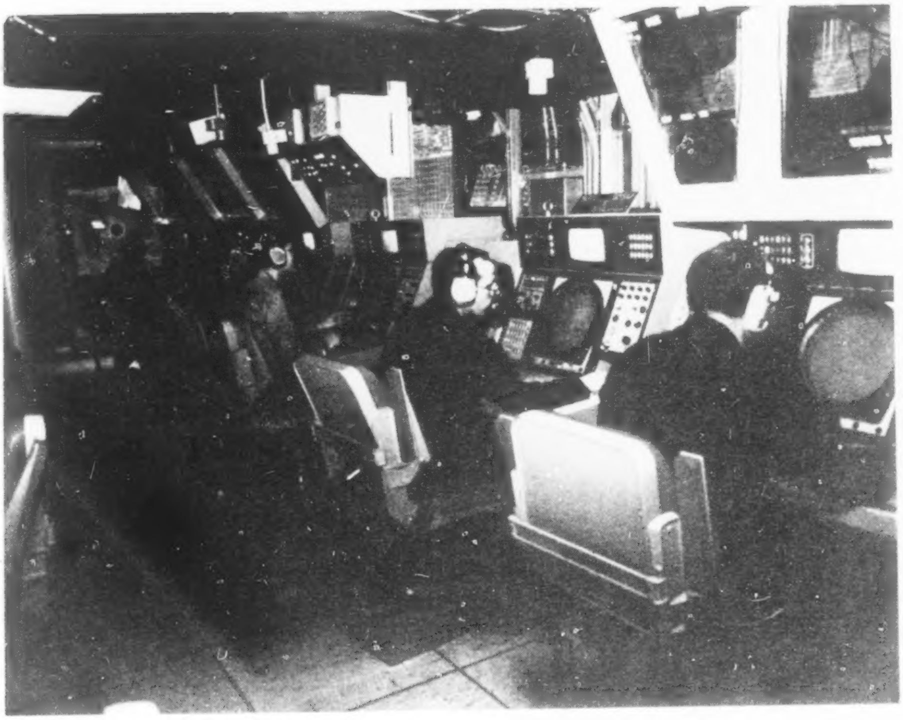
AIC
DRT
FC2
FC1
FIC
FEC
ASAS
SRC
SCDO
TTCO
ASIO
PRO
FWD

COMBAT
INFORMATION
CENTER
(CIC)

In order to better understand the terminology in the description of the engagement, I will show you the manner in which the Combat Information Center, CIC, is organized and some of the information available to members of the watch team.

This is a schematic representation of the Combat Information Center in the *Vincennes*. So as not to confuse you with several abbreviations, I have highlighted the key watch positions that are frequently referred to in the report. The commanding officer, the tactical action officer, TAO, and Golf Whiskey, the officer responsible for monitoring the air picture, are shown at the Aegis display system. The anti-air warfare coordinator, AAWC, the tactical information coordinator, the so-called TIC, and the identification supervisor, IDS, are shown in what is commonly referred to as "air alley."

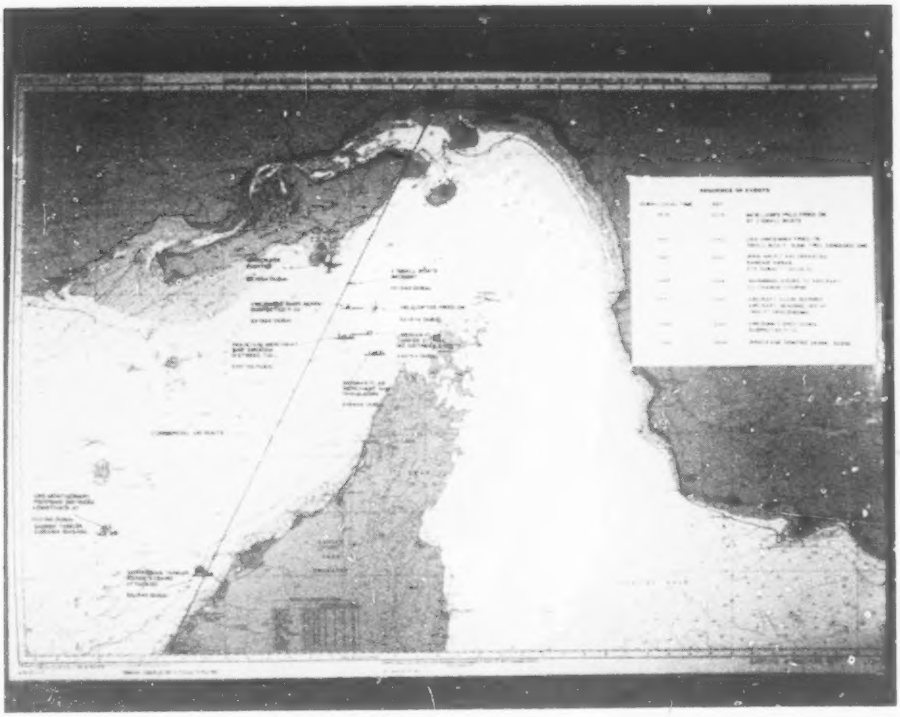
This is a picture of the Aegis display system and the large screen displays on the *Vincennes*. This is the area where the commanding officer, the tactical action officer, and Golf Whiskey, the officer responsible for monitoring the air picture, sat at general quarters that day.



This picture of air alley shows a picture of consoles operated by the men who sit behind the Aegis display system. The circular screen is where computer-generated symbology, which represents the contacts, appear. The operator's CRO, or character readout, is located directly above the circular screen.

The operator uses the CRO to review specific information such as bearing, range, speed, altitude and IFF returns interrogated by an Aegis computer.

Mr. Chairman, the next viewgraph describes the intelligence background and is above the classification level right here. I will go ahead to the next, with your permission, sir.



This chart depicts the rash of Iranian gunboat activity, which included an attack against a U.S. helicopter within hours of Iran Air 655's departure. On the evening of July 2, a Danish merchant in international waters was harassed by Iranian gunboats. The merchant requested distress assistance from the United States, and the frigate *Montgomery* responded and fired a warning shot to stop their aggressive behavior.

Only hours later, during the early morning of 3 July, a Pakistani merchant was also harassed. She also issued a distress call. Soon thereafter explosions were heard in the vicinity of a Liberian merchant, where numerous Iranian gunboats were gathered.

While reentering the Persian Gulf after escorting the *Samuel B. Roberts* mothership to safety, the *Vincennes* launched her LAMPS Mark III helo to investigate. Later that morning, a third neutral merchant, this time a West German ship, was being closely tracked by two Iranian gunboats. As *Vincennes* and *Montgomery* approached the area, the gunboats dispersed.

Shortly thereafter, one group of gunboats opened fire on the *Vincennes'* helo. Thirty-three minutes later, Iran Air 655 was detected departing the civilian/military airport at Bandar Abbas, Iran.

Although the incident does not appear on this chart, the crew of *Vincennes* was well aware that two Iranian F-14s approached the Navy cruiser *Halsey* on the afternoon of July 2. This is the day previous. Those fighters closed to within seven nautical miles before turning outbound. *Halsey* had to resort to repeated warnings and the use of fire control radars to illuminate the aircraft.

ENGAGEMENT SEQUENCE

0647 Z

P-3 62 nm west of *Vincennes.*
SPY radar detects Flt 655 BRG 025, RNG 47 nm at 900 ft.
IDS breaks mode III as 6675 (C & D holds 6760).
First call of F-14 heard by at least two watchstanders on internal net 15/16.
ADT stated Flt 655 was squawking modes II and III.

With this background in mind, I would now like to describe the 7-minute flight of Iran Air 655.

When Iran Air 655 departed the civilian/military airfield at Bandar Abbas at 0647 Zulu, Greenwich Mean Time, the sequence of events occurred in chronological order. An Iranian P-3 patrol craft was approaching *Vincennes* from the west.

The SPY radar aboard *Vincennes* initially detected flight 655 bearing 025 degrees true from the *Vincennes* at a range of 47 miles. The identification supervisor, IDS, testified he saw an IFF Mode III squawk of 6675. We know that the Aegis computer saw a Mode III squawk of 6760, which was actually flight 655's assigned IFF code.

It was at this time that someone reported that the approaching aircraft was an F-14.

The investigation was unable to determine who initiated that report. The SPS-49 air detect tracker, ADT, testified he saw both a Mode II and III squawk from flight 655.

ENGAGEMENT SEQUENCE (CONT)

0648 Z

IDS reviewed commercial air schedule.
Flt 655 BRG 025, RNG 44 nm, CSE 202, SPD 232, ALT 2,500 ft by SPY radar.
U.S.S. *Sides* illuminated flt 655 with fire control radar.

At 0648 Zulu the identification supervisor reviewed the commercial air schedule at his station and, because Iran Air 655 was 27 minutes late, he incorrectly concluded that the contact of interest was not flight 655. At this moment, *Vincennes'* Aegis radar held flight 655 on a constant bearing of 025 degrees at a range of 44 nautical miles on a course of 202 degrees true at an altitude of 2,500 feet.

It was at this stage that the U.S.S. *Sides,* which was about 18 nautical miles northeast of *Vincennes* and who had been tracking the aircraft, trained her fire control radar on flight 655.

ENGAGEMENT SEQUENCE (CONT)

0650 Z

Vincennes issues first warning on IAD to flt 655.
IDS sees mode II 1100 on his RCI and reports possible F-14 over internal net 15/16 to all stations.
Several people hear the F-14 call.
GW reports inbound F-14 to GB BRG 025, RNG 32 nm.
GW tells GB that a warning was issued and ignored.
OSDA tagged Flt 655 as F-14 on large screen displays in front of the CO, TAO and GW.

At 0650 Zulu the engagement decision process which evolves over the next 4 minutes really begins. Three minutes into the flight, *Vincennes* began to issue the first of several IAD warnings. *Sides* also warned the aircraft. The identification supervisor testified he saw a Mode II IFF signal on his remote control indicator.

Several men heard the approaching aircraft identified as an F-14. Golf Whiskey, the officer sitting next to the commanding officer, charged with monitoring the air picture, reported to Golf Bravo, the commander Joint Task Force, Middle East, that an F-14 was approaching *Vincennes* on a bearing 025 degrees at a range of 32 nautical miles. The same officer informed Golf Bravo that a radio warning has been issued and ignored.

Finally, during this minute the own ship display assistant, OSDA, hearing the contact was an F-14, tagged flight 655 with an F-14 label on the screens in front of the commanding officer, the tactical action officer and Golf Whiskey.

Engagement Sequence (cont)

0651 Z

GW tells GB his intention to engage F-14 at 20 nm.
GB tells GW to issue warning before engaging.
AAWC directs continuous warnings. One MAD and one IAD warning issued.
Flt 655 BRG 025, RNG 30 nm, CSE 207, SPD 350, ALT 7,000 ft by SPY radar.
CO acknowledges CICO's report that approaching aircraft is possibly a commercial aircraft.

At 0651 Zulu, *Vincennes* informed Golf Bravo of his intention to engage at 20 miles and was directed to warn the approaching aircraft. Continuous warnings began. Flight 655 remained on a constant bearing of 025 degrees, now 31 nautical miles from *Vincennes* on a course of 270 degrees at speed 350 knots, climbing through an altitude of 7,000 feet.

At the end of this minute, the combat information officer told the commanding officer that the approaching aircraft was possibly a commercial airliner.

Engagement Sequence (cont)

0652 Z

Radio warnings issued.
Attempts to try to illuminate Flt 655 begin.
The "contact" is observed to be descending.
By SPY radar, Flt 655 at 9,000 ft ascending.

Two minutes prior to firing, warnings were being issued continuously. *Vincennes* began to try to train a fire control illuminator on the aircraft. Because of a procedural error, this attempt was not successful until the actual time of the engagement.

Also during this minute, the first reports of descending altitude occurred. The aircraft, as we know now, was always ascending.

Engagement Sequence (cont)

0653 Z

No radars detected from Flt 655.
Flt 655 BRG 018, RNG 16 nm, SPD 371 kts, ALT 11,230 ft by SPY radar.
TIC begins to update range of Flt 655 at every open spot on internal net 15/16.
By SPY radar, Flt 655 RNG 14 nm, 12,000 ft SPD 382 kts.

At 0653 Zulu, the commanding officer continued to hold his fire while searching for any kind of electronic emission that might help identify the unknown, assumed hostile aircraft that was steadily closing. Flight 655 was now bearing 018 degrees, only 16 nautical miles from *Vincennes,* climbing through 11,000 feet at a speed of 371 knots.

Concerned that the aircraft continued to close despite the repeated warnings, the tactical information coordinator began to update the aircraft's range at every opportunity. One minute prior to firing, Flight 655 was 14 nautical miles from *Vincennes,* climbing through 12,000 feet at a speed of 382 knots.

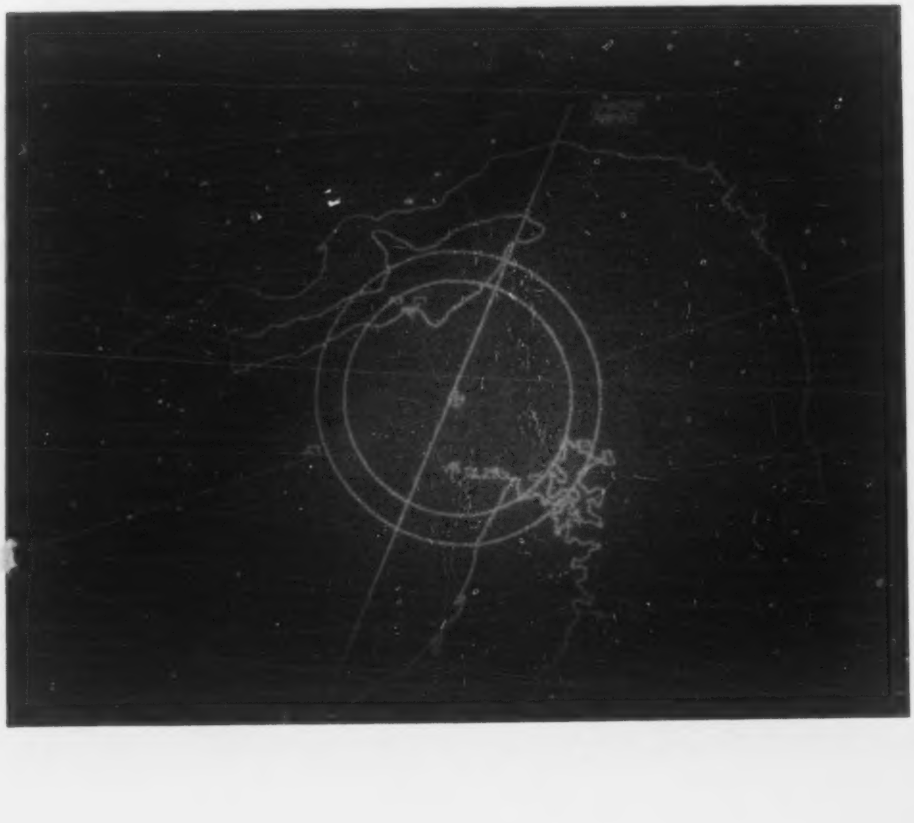
Engagement Sequence (cont)

0654 Z

IDS observes Flt 655 at 7,800 ft. at 455 kts descending.
Spy radar holds Flt 655 at 12,000 ft ascending at 380 kts.
Firing key turned.
AAWC recalls altitude of 6,000–7,000 ft.
14 secs after firing key is turned, MSS starts launch sequence.
3 secs later first missile is launched followed by a second missile.
Two missiles intercepted Flt 655 BRG 001, RNG 8 nm at 13,500 ft at 383 kts.

The identification supervisor reported seeing profile information at the beginning of this minute that actually occurred after missile impact. In fact, Flight 655 was ascending past 12,000 feet at 380 knots when the commanding officer turned the firing key.

The launch sequence began in 14 seconds, and within 4 seconds two missiles were fired. By the end of this minute, both missiles struck the aircraft, 8 miles from *Vincennes* at an altitude of 13,500 feet.

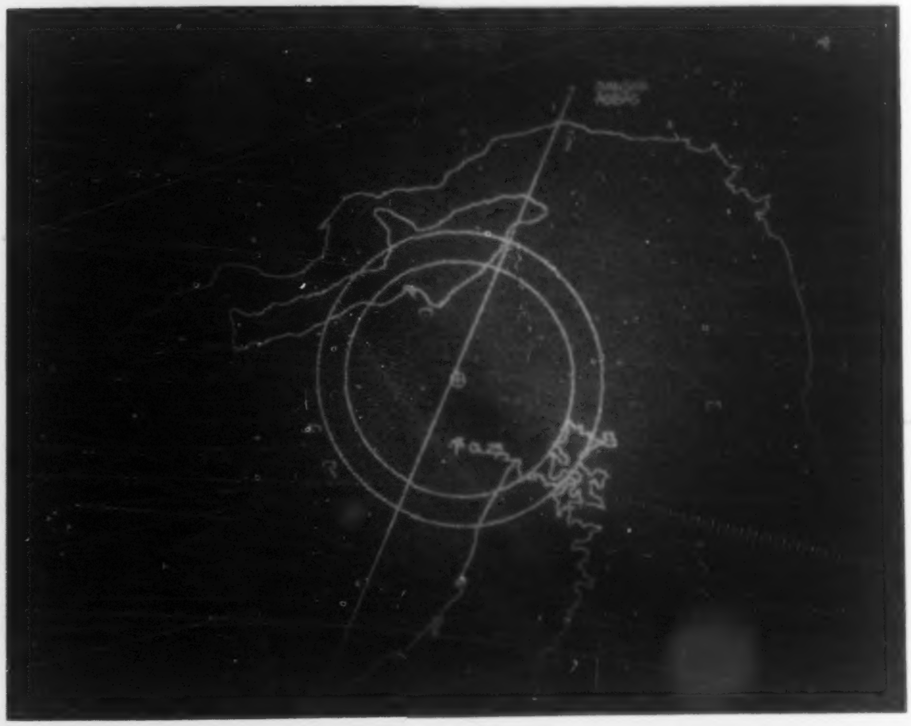


The following four slides are pictures that were taken at Wallops Island of the large-screen displays. They show the actual data recorded on *Vincennes* during the event.

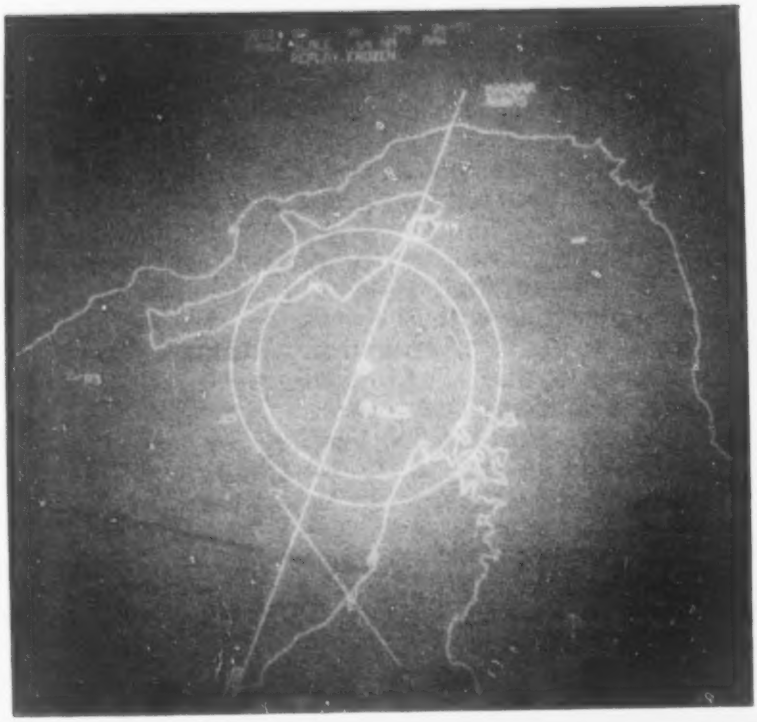
In this first viewgraph you can see that the Aegis system displays the geographic maps of the surrounding area and can label points of interest. This range scale is 64 miles from the center of the display. Here you can clearly see the Strait of Hormuz, and please notice that civilian/military airfield at Bandar Abbas is labeled.

The straight line originating at the airfield at Bandar Abbas is the center of the airway Amber 59 as it appeared on *Vincennes* that day. The small circle with the cross in the center represents *Vincennes*. This is an AAW or anti-aircraft warfare screen, so only symbols that represent aircraft are displayed. I will later show a screen with both air and surface symbols.

At time 0647 Zulu, Iran Air 655 has not yet been detected, but there are unidentified aircraft to the west and northwest, and the *Vincennes* helo, called Ocean Lord 25, is to the south of *Vincennes*.

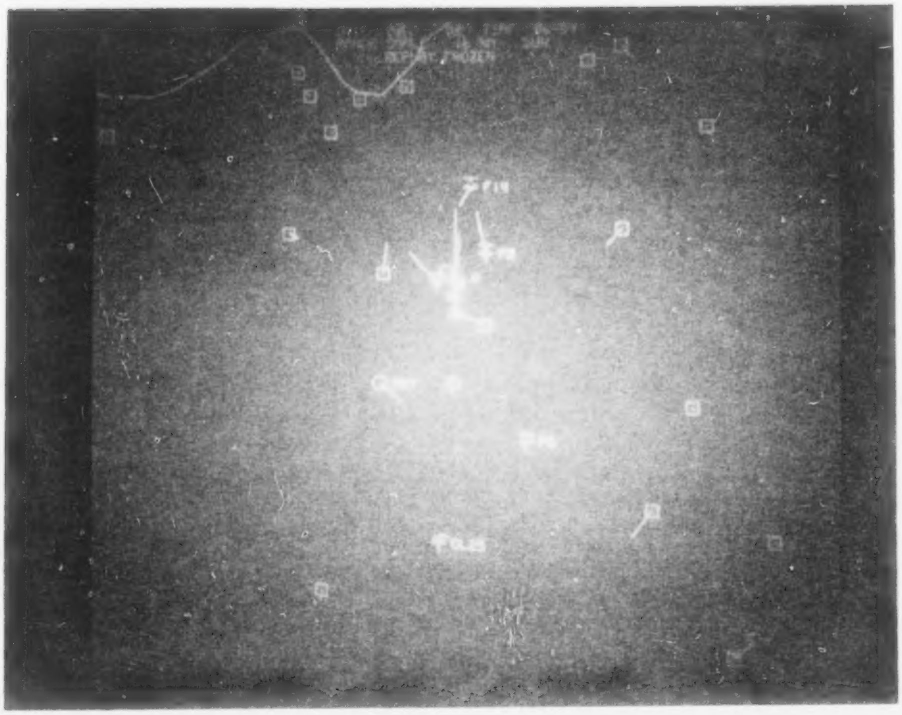


One minute later you can see that Iran Air 655 has been detected and is tracking directly toward *Vincennes*. The symbol you see indicates an unidentified, assumed hostile, aircraft, which is consistent with the standard operating procedures because the aircraft originated from Iran.



At 0651 Zulu, the aircraft continues to head directly toward the *Vincennes* and has been labeled as an F-14 on the large-screen displays. You will also notice an Iranian P-3 approaching *Vincennes* from the west.

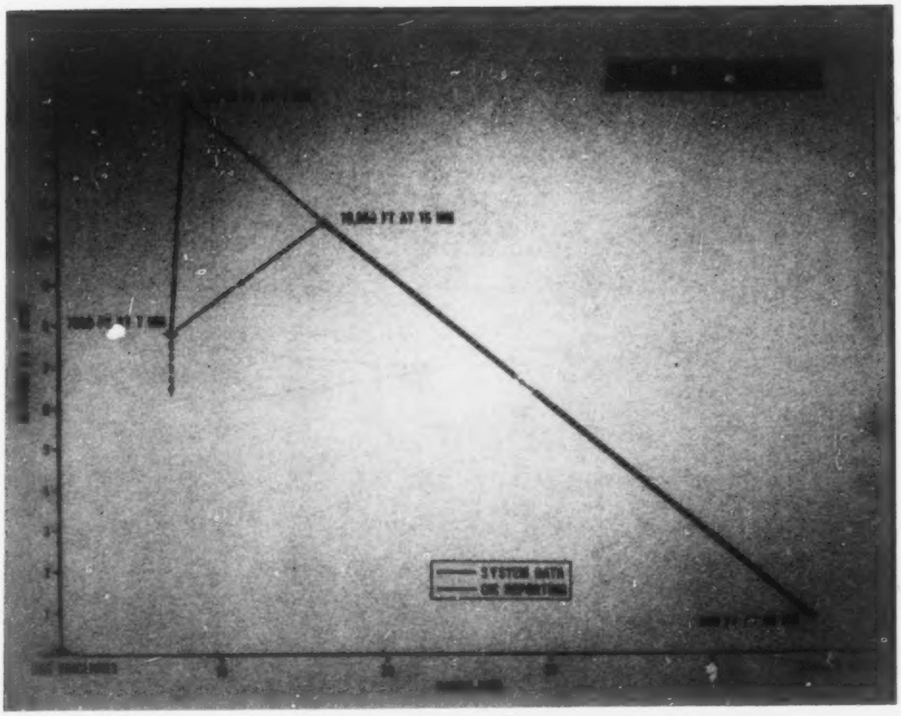
The range scale of this display is a 64-nautical mile radius from the center of the display.



This event cannot be examined as a single aircraft approaching a Navy ship. This display vividly shows the demanding tactical situation that better portrays the reality of the moment.

Note the large number of unidentified surface contacts. You can see the frigate *Montgomery*, labeled MNT, which was under the tactical control of the *Vincennes*. Both ships are exchanging gunfire with Iranian gunboats. This range scale only shows what is happening within 16 nautical miles of *Vincennes*.

And now the approaching aircraft is pointed directly at *Montgomery*. The two symbols labeled M are the standard missiles in flight.



This chart summarizes both the actual and perceived flight profile of Iran Air 655. Range in nautical miles from the *Vincennes* is depicted on the horizontal axis, and the aircraft's altitude is shown on the vertical axis.

A puzzling aspect of this unfortunate accident was the misreading of altitude. We established in the investigation that the range and altitude information passed to the commanding officer was correct until the contact reached approximately 15 nautical miles from *Vincennes.*

Shortly thereafter, a radar operator reported that the altitude was decreasing. At that moment, the commanding officer was rapidly reaching the point of no return with his standard missiles and was inside the potential Iranian air-to-surface missile envelope.

The investigation was unsuccessful in satisfactorily reconciling the conclusion that the contact was descending when in fact the Aegis weapon system showed the aircraft always to be climbing.

FUNDAMENTAL CONSIDERATIONS

Ongoing surface engagement.

"Unidentified assumed hostile" contact had taken off from a civilian-military airfield.

Heading directly at *Vincennes*, relentlessly closing.

No definitive electronic emissions.

Unanswered warnings.

Short decision window.

No proof that contact was not related to the ongoing surface fight.

These are the fundamental critical considerations that confronted the commanding officer of the *Vincennes* that morning. *Vin-*

cennes, with *Montgomery* and *Sides* under her tactical control, were involved in an ongoing surface engagement with Iranian gunboats. An assumed hostile aircraft appeared to depart a civilian/military airfield.

The aircraft steadily closed both *Vincennes* and *Montgomery* with no unique electronic signature. There were no responses to the repeated radio warnings that were issued during this short decision window. And, finally, there was no proof that the approaching aircraft was not associated or related to the ongoing surface engagement.

Given the time available, the commanding officer could hardly meet his obligation to protect his ship and crew from absorbing the first blow, as was the case with the U.S.S. *Stark*, and also clear up all of the possible ambiguities. It is not unusual in combat to have to deal with uncertainties and conflicting information.

Although it might not seem fair, commanding officers do not always have the luxury of reconciling all such questions before committing themselves. They have to go with the weight of the evidence at the time. These are the realities of combat and the commanding officer, if he is to function effectively and protect his ship, must be given some latitude to deal with them.

INVESTIGATION RESULTS

Considering the entire context of events, no disciplinary or administrative action against any U.S. Navy personnel will be taken.

No changes to ROE are necessary. ROE are under constant review.

Dialable VHF radios are being installed in MEF ships whenever available.

Revised voice challenges to unknown aircraft are now in use.

CO *Vincennes* review and strengthen AAWC position.

I have recommended several actions as part of my report and they have been reviewed by both the Chairman of the Joint Chiefs of Staff and the Secretary of Defense, and I believe Admiral Kelly will be able to talk to those, sir.

STATEMENT OF REAR ADM. ROBERT J. KELLY, USN, VICE DIRECTOR FOR OPERATIONS, JOINT STAFF

Admiral **Kelly**. Mr. Chairman, Admiral Fogarty's investigation recommended several actions that have been reviewed by the Chairman of the Joint Chiefs of Staff and the Secretary of Defense. Both Admiral Crowe and Secretary Carlucci concur with Admiral Fogarty's recommendation that no disciplinary action be taken against any Navy personnel.

Even though the existing rules of engagement did not contribute to the accident, we constantly review our ROE to be sure they are appropriate for the existing situation, and we will continue to do so.

Some recommendations have already been acted upon. We have already installed VHF radios in ships assigned to the Middle East force. These radios can be quickly tuned to different VHF frequencies that are used by commercial airlines.

We are using revised voice challenge procedures that we will discuss with the International Federation of Airline Pilots Association and the International Air Transport Association.

Also, the commanding officer of *Vincennes* has been directed to review and strengthen his anti-air warfare coordinator watch position.

RESULTS (CONT)

Review design of Aegis large screen displays to allow the option of displaying altitude information.
Investigate the feasibility of providing a mode in the UPX-29 which will slave the RCI challenge gate to a hooked track.
Include military/civilian coordination scenarios in fleet training.
Review Aegis IFF operator training procedures.

The Secretary of the Navy has convened a panel to review the recommendations which apply to Navy equipment or training procedures. The design of the Aegis large-screen displays, the manual mode of IFF and specific training procedures will be reviewed. Recommended changes are to be submitted to the Secretary of the Navy by December 1.

ACTIONS TO IMPROVE AIR SAFETY

In concert with ICAO and State Dept., DOD is acting to:
  Encourage civil acft to turn on weather radars.
  Obtain IFF codes for civil acft.
  Examine feasibility of monitoring civil ATC frequencies.
  Obtain civil flight plan info.

The Department of Defense has taken additional actions to prevent a similar accident in the gulf. In working closely with the State Department and the International Civil Aviation Organization, ICAO, we are acting to improve civil air safety in the region.

At Secretary Carlucci's invitation, technical officers from ICAO visited *Vincennes* at sea on 26 August to discuss exactly this subject. Also, the President and Secretary General of ICAO have been given an orientation briefing here in the United States on ways we can improve our civil-military coordination in the gulf.

This endeavor is clearly a multilateral effort which requires cooperation of all the GCC states as well as the commercial aircraft which overfly the gulf.

Specifically, we recommend that all civil aircraft turn on weather radars when flying over the gulf in order to provide a unique and identifiable electronic signature. We do not have ready access to the IFF codes used by airlines in the area, and we need them.

With the new VHF radios I mentioned earlier, we are examining ways to monitor several air traffic control frequencies in the area. We are also seeking access to flight plan information, not just airline schedules, to better track commercial airliners.

ACTIONS (CONT)

Investigate the establishment of a civilian/military coordination cell.
Issue a revised notam.
Change civil air profiles over water.
Reopen airways over land to minimize use of civil air routes over water.
Ensure civil acft monitor IAD.

To improve the coordination, we are examining the feasibility of establishing a civilian/military coordination cell on-scene to resolve deconfliction issues. We have also submitted a revised notice to airmen to each flight information region in the gulf and have asked that they publish our proposal in their own area of responsibility.

Additionally, a recommendation has been made that airliners transiting over water fly at or above 25,000 feet. It is interesting to note that Iran Air flights using Amber 59 now climb to 26,000 feet before flying over the gulf.

Another step to improve civil air safety would be for local governments to reopen airways that would allow airliners to transit the region over land as opposed to flying over the gulf.

Finally, we are encouraging flight crews to monitor commonly-recognized international air distress (IAD) frequencies when they elect to fly over known areas of hostilities.

Admiral **Fogarty**. In summary, Mr. Chairman, I believe we can never lose sight of the impact the past events in the Persian Gulf have had on the minds and the crew of the *Vincennes*. The *Stark* incident resulted in a loss of 37 American lives, and the commanding officer was criticized for not taking timely action.

Iran intentionally and maliciously planted mines which severely damaged *Bridgeton* and the *Samuel B. Roberts*. Iran has repeatedly initiated attacks against neutral ships in international waters. These are harsh realities and they were a major factor in this unfortunate accident.

By any measure, it is my opinion that it was unconscionable for Iran to ignore the repeated warnings of the United States and permit an airliner to take off from a joint civilian/military airfield and fly directly into the midst of a firefight. There was a surface action ongoing which the Iranians had initiated. In my opinion, sir, it only follows that Iran must share some responsibility for this tragedy.

Any man or woman who has defended their nations' interests knows that even the most successful combat action is never error-free.

Sir, that concludes my briefing and I am standing by to answer questions.

Chairman **Nunn**. Admiral, let me just agree with the last two points you made, particularly about Iran sharing some responsibility for this tragedy and also the fact that there is no such thing as error-free combat. I do not think there ever has been, and there never will be. I think we have to put this whole report in that context.

Let me just start the questioning this morning, and I will ask the clerk to keep time, as we normally do, and let us know when time has expired so we will all have a chance to ask questions and perhaps have a second round.

Your report clearly indicates that certain information about the Iranian aircraft given to Captain Rogers was inaccurate, including the IFF squawk leading to the F-14 classification, which was of course inaccurate; decreasing altitude, which you made clear was never the case, always ascending; and also that the aircraft was always inside the commercial air corridor instead of being outside the corridor.

Now, using your best judgment, and I recognize this is a subjective judgment, but knowing what you know as the principal investigating officer, if Captain Rogers had been provided the correct information in those three aspects as well as other aspects—in other words, if the Captain had the correct information rather than the incorrect information—do you believe he would have made the decision to engage the aircraft on those three points?

Admiral **Fogarty**. Mr. Chairman, it is very difficult for me to say because that situation did not exist.

What I can say, and putting myself in the commanding officer's position, is that the other elements that were there—the fact that it took off from a civilian/military airfield, the fact he was in combat at the time, and, as he has said and testified, he thought everything was related that day and, as you may recall, on the 18th of April when we were in combat with Iran there was a related incident where during the surface action aircraft took off from Iran and headed toward our units—that was in the back of his mind.

This is extraneous to what happened in his CIC. It was also the fact that he had a P-3 that was off to the side of his ship at about 50 miles, in what he recognized as a typical targeting situation, giving information to a third party to target his ship. And, finally, he had no ESM, which is extraneous, of course, to the ship.

So again, sir, to answer your question, I cannot say for sure because I cannot speak for the captain. But, as you asked for a subjective answer, I believe the other items that were what I call consideration or critical to this, fundamentally critical, had a direct impact on his decision to fire.

Chairman **Nunn**. The items that were indeed proved later to be inaccurate—the ones beyond that, you mean?

Admiral **Fogarty**. The ones beyond that—in other words, what I would call external, if you will.

Chairman **Nunn**. Could you give us your best subjective judgment as to those external factors, to the degree they play a role that you have just enumerated, as compared to the role played by the IFF classification, the role played by the erroneous information about decreasing altitude, and the role played by the aircraft being reported to the captain as not being in the civilian corridor?

Which of those two, if you grouped them—one set of external factors and one set of erroneous information—which of those two was more important, or can you make that judgment?

Admiral **Fogarty**. It is very difficult to say what is more important. I do know that the commanding officer testified that he did not even recognize an F-14. What he was worried about was the threat to his ship from an unidentified aircraft. So I think the F-14 determination was not a large determination in the commanding officer's mind.

The big determination, I believe—and again I cannot put myself in his mind; I can only go on the facts as I found them--is that he was in combat, that the events that were happening on that day were all interrelated. Also he had in the back of his mind the *Stark* incident. In my judgment those were telling critical, fundamental concerns that he had.

But I cannot tell you for sure which ones of those were the ones that made the final decision for him.

Chairman **Nunn**. Right at the very outset of this time sequence, there was a report, I believe, that was heard by a number of people involved in this, that this was an F-14 identification. How much importance do you attach to that report in terms of perhaps leading to other erroneous judgments?

In other words, you think an F-14 is out there—I am not saying necessarily the captain, but the whole operation of the ship—if you think an F-14 is out there, does that not naturally taint your view on almost everything else and lead to it being more likely that you would make other errors?

Admiral FOGARTY. I believe the call of the F-14 did affect people in CIC. It certainly raised the pucker factor. We did establish that in the investigation. Yes, it was in fact erroneous, but they did not know that. In the very short time period that they had, with everything else going on—guns firing, lights flickering, the ship maneuvering radically to free a gun mount—the call of the F-14 I think added to this stressful situation within CIC.

As to the exact result of that cause and effect, sir, I was unable to determine that. But I was unable to reconcile the fact that the tapes from *Vincennes* showed a continuous ascent in altitude whereas at the final last seconds there was a call of decreasing.

Chairman NUNN. You never could find an answer to that?

Admiral FOGARTY. No, sir.

Chairman NUNN. Could that F-14 mindset have been a contributing factor to that erroneous call in altitude?

Admiral FOGARTY. Yes, sir, I think it could.

Chairman NUNN. Admiral, your report indicates that the commanding officer of the U.S.S. *Sides* evaluated the aircraft as a non-threat. Now you have had two different ships out there. One determines it is a threat and one determines it is a non-threat.

Could you tell us the difference in those judgments?

Admiral FOGARTY. Yes, sir. As far as the *Sides*—and, of course, we went aboard the *Sides*, as we did the *Vincennes* and the *Montgomery*, and had lengthy discussions with the commanding officer, reviewed his statement, and also he testified at the hearing—the best I can determine from all this is that because he was so far away from the flight path of 655—the actual CPA I believe was 15 miles——

Chairman NUNN. CPA?

Admiral FOGARTY [continuing]. Closest point of approach to his ship, he did not consider it a threat to his ship. He was also aware of the fact that the *Vincennes* was a very capable AAW ship, and I believe that—which is, of course, after the fact in his testimony—that he just did not feel that he was being threatened. His ship was not being threatened, which it was not, and that the *Vincennes*, being a very capable AAW ship, if they call an F-14, then they are probably right.

Chairman NUNN. Thank you, Admiral. My time has expired. Senator Warner.

Senator WARNER. Thank you, Mr. Chairman.

First, Mr. Chairman, I would like to ask that reflected in our record today are the names of five Navy captains, two lieutenant commanders and two commanders who comprised the Fogarty team. And, speaking for myself, I wish to commend you, Admiral, and the members of your team for a very fine job. It is a most unusual and difficult task to sit in judgment of your fellow officers and men of the U.S. Navy, and I think you did a commendable 4–0 job, and I hope you and the members of the team carry a measure of personal pride for this.

Chairman **Nunn**. Senator Warner, I will order these names all to be put in the record, and I join you in thanking the investigators for a very difficult job.

[The information referred to follows:]

The members of the investigation team are as follows:
Rear Adm. W.M. Fogarty, USN;
Capt. A. Creely, USN;
Capt. D. Albrecht, JAEC, USN;
Capt. D. Knappe, USN;
Capt. J. Keiley, USN;
Capt. R. Horne, USN;
Lt. Cdr. T. Bush, USN; and
Lt. Cdr. C. Yuhas, JAGC, USN.
Technical advisers:
Cdr. M. Cassidy (PMS 400) and
Cdr. W. Kyle (PMS 400).

Senator **Warner**. Thank you, Mr. Chairman.

Concerning your concluding comment, which was joined by the chairman and certainly the members of the committee, that combat is very difficult to duplicate, to envision, to prepare, to train for because of the uncertainties—what training, if any, does an Aegis crew, and particularly the crew of this ship, receive with reference to possible combat scenarios?

And in the future will the Navy try using this case as an example and others, to inject into those training scenarios prior to deployment of these ships some element of training which approaches as nearly as possible situations of this type?

The first question, what training was there in the background of the crew and, second, are there plans for the Navy to change that training in the future?

Admiral **Fogarty**. Senator, I will answer your first question as to what we found in the investigation on the training of *Vincennes*, and then I would like to hand it over to Captain Gee for what the Navy is doing, if that is all right, sir.

One of the items that we did look at very critically was the workup training for the *Vincennes* and did she come into the gulf ready. We determined that she did. One item that we were most interested in is did she exercise in what we call a fleet exercise scenario that is as close as possible to wartime.

Now obviously we cannot shoot at each other, but they went through a fleet ex, a Middle East Force exercise, and combined combat operations at-sea exercise before they came into the gulf, which were multiple threat environments—air, surface, mines—and the reports that I had received from the commanders who were in charge of training them that they did very well was confirmed in my report by what we observed in their workup.

So in my estimation she entered the gulf trained. Was she trained in combat? Sir, the answer to that is, unless you actually get shot at, you are not in combat. But she went through the best exercises she could to work up that included the threats, although not shooting threats, that she would face in the gulf.

Senator **Warner**. Captain Gee, let me just say first you and I conversed a number of times during the course of this investigation. I wish to thank you again for the advice and counsel that you provided this Senator.

Captain **Gee**. Thank you, sir. It is certainly our intention to take a very, very careful look at our entire continuum of training as a result of this. The degree to which the Navy can replicate combat stress, true combat stress, or, for that matter, any service, is something which is going to take a lot of additional analysis and effort to try and achieve.

The Navy inherently operates in a very stressful environment; just being at sea with nature is in itself a stressful environment. Translated into the environment of the Persian Gulf, those stress levels, where basically our Navy has been in a defensive not a proactive offensive position, the stress levels on the ship are already very high.

Senator **Warner**. On that point, those defensive situations were really dictated by political considerations is that not correct? Because, there is no such thing as "ordinarily," but—let us face it—certain actions could have been taken by the U.S. Navy that would have precluded this incident from ever happening.

But you, the Navy, were under a set of orders, to sit there and just basically take defensive actions until such time as the enemy wished to initiate offense, and then we could take certain offensive actions.

I think that bears on this case and that all goes to the point that the chairman said—that the Iranian government bears a very heavy measure of responsibility for this incident.

I am going to have to ask you to supply the balance of your response to this question for the record because I want to get one more question in under the limited time that we are working under here.

That goes back to this issue of accountability. Admiral Fogarty and his team judged that at least one officer should bear a measure of reprimand and that was reversed by higher authority.

Let us go back to the history of navies of the world and responsibility of the captain. As you know, the history of our Navy, and indeed the history of many, if not all, major navies in the world, are replete with incidents where the captain justifiably was asleep, trying to get a few hours sleep, and then something happened aboard his ship and nevertheless he bore that responsibility.

And we come back to the judgment here, which I concur with and think is proper, that the captain here did not bear any responsibility in terms of reprimand. I think that was a proper conclusion.

But has there been a change in that doctrine and should that doctrine be changed in light of the complexity of our ships today and the political-military environments in which they have to operate? Perhaps both Admirals would like to reply to that question.

Admiral **Kelly**. Senator Warner, let me first begin by saying I do not think that there has been any change in the philosophy which holds the commanding officer accountable and responsible for the safety of his ship and crew. He has that ultimate responsibility. That has been our tradition. To my knowledge, that has not changed.

Having been a commanding officer several times, as Admiral Fogarty has, there is no question in my mind who is responsible, and I do not think any of our commanding officers would say that it has changed.

In this particular case, in fact, the investigating officer found and the endorsing chain found that in fact the captain was exercising that responsibility and that he thought, based upon the information available to him at the time, that his crew was threatened, and he took decisive action to in fact carry out his responsibility.

I would also add, sir, that the investigation determined no punitive action would be taken, and in General Crist's case he did not recommend any punitive action or censor. He recommended a nonpunitive letter be given, which is a statement of communication between a superior and a junior which is supposed to be held in private and points out to him areas in which improvement could be made and therefore he should take the following actions.

And in this case the Chairman recommended, and the Secretary concurred, that it would be appropriate because of the attention that had been focused on the accident, that a non-punitive letter could stay in that category. And so the recommendation was accepted to withdraw it.

Senator **Warner**. Then there was a clear difference of professional judgment between the Chairman and Admiral Fogarty and his colleagues?

Admiral **Kelly**. No, sir, I do not think so.

Senator **Warner**. Or at least General Crist.

Admiral **Kelly**. Let me ask Admiral Fogarty to address what he did in his investigation as far as a recommendation.

Admiral **Fogarty**. Sir, it was my opinion—and I might add it was the consensus of my complete investigating team—that no punitive action should be taken. There was no culpable or willful negligence, and the commanding officer was protecting his ship and his people, as expected of him.

In General Crist's endorsement he also did not find culpability or negligence, and, as Admiral Kelly said, he did feel that the Golf Whiskey could have provided more information to the commanding officer and therefore a non-punitive, which means no punishment, letter should be issued, which he has since withdrawn.

Admiral **Kelly**. I think the key point, sir, if I might, is that there was no disagreement between General Crist and the Chairman and the Secretary. The letter was withdrawn because I believe the Chairman felt that it could not be given in the nonpunitive format, that any letter that would be issued, because of the publicity attached to the incident, would be viewed as punitive. And therefore he decided not to recommend that.

Senator **Warner**. So it was in the nature of a technical imperfection that Crist issued that letter?

Admiral **Kelly**. No, sir. I do not think so. I cannot speak for General Crist because I was not there.

Senator **Warner**. That point ought to be clarified. I yield, Mr. Chairman. I have taken more than my time.

Admiral **Kelly**. We can provide the answer for the record, sir.

[The information follows:]

I submitted my report; General Crist, who was the convening officer of the investigation, puts his endorsement on it; it goes to the Chairman and then to the Secretary. So that is correct.

I cannot speak for General Crist on his endorsement. Again, he did not feel it was a matter of culpability or negligence and he issued a non-punitive, which is the least offense you can give or punishment you can give, because it does not go in your record and it is just that, non-punitive.

Chairman NUNN. Next on my early bird list would be Senator Wirth, but I believe Senator Wirth had to leave.

Senator Stennis has indicated he does not want to participate in this round of questions. Senator Stennis, we appreciate your being here today. They are working on that ramp. You deserve to be at the highest level, but we appreciate your being here today and your attendance is always very meaningful to us.

Next would be Senator Levin.

Senator LEVIN. Thank you, Mr. Chairman.

Let me join in welcoming our panel. I share the feeling that has been expressed about Iran's large measure of responsibility for this incident, the most significant reason being that at the moment this happened or shortly before that moment we were literally under attack by Iranian boats. That, to me, is the most significant fact which explains a lot of this. You pointed it out.

It is not the only part of Iran's responsibility, by the way, but the most significant momentary fact being that at the time these decisions were made we were literally under attack by Iran.

I would like to refer to your report, if I could, by page number and ask you some questions about it. On page 6 of your report, paragraph 4, you indicate that Flight 655 was directed by the Bandar Abbas tower to begin a normal climb to an assigned altitude of 14,000 feet, to squawk Mode III code, et cetera. How do we know that?

Admiral FOGARTY. Sir, I have to talk to that in closed session. I cannot discuss that at this level.

Senator LEVIN. We were not in touch with that tower?

Admiral FOGARTY. No, sir.

Senator LEVIN. As I understand it, the scheduled departure time for that flight was 9:59; is that correct? We thought it was 9:50. Is that the bottom line?

Admiral FOGARTY. That was local time, yes, sir. Actually, the time that was in the schedule, as it turned out, the aircraft took off 27 minutes after that.

Senator LEVIN. I understand. But at one point we say they were scheduled to depart at 9:50. That was the information we had.

Admiral FOGARTY. That is local time.

Senator LEVIN. I am referring to local time. They were scheduled to take off at 9:50 local time; is that correct?

Admiral FOGARTY. Yes, sir, I believe it is.

Senator LEVIN. Let me refer you to page 15 of the report near the top.

Admiral FOGARTY. As I recall, that is correct.

Senator LEVIN. Our information was that it was supposed to take off at 9:50. Then, later on in your report, further down on page 15, if you look at the chart it says depart time 6:59, so that it was actually scheduled to leave at 9:59, although we thought the schedule was 9:50; is that correct?

Admiral Fogarty. Sir, in Bandar Abbas there is a 30-minute time difference from local, so you have to add 30 plus the nine. So actually I believe the actual time was 27 minutes, but the conversion of time is you have to add another half an hour.

Senator Levin. Without getting to the adds and subtracts, there is a difference on page 17. You say in paragraph 3 that the flight was scheduled to depart at 9:50 local time. Do you see that in paragraph 3 on page 17?

Admiral Fogarty. Sir, I see what you mean. There is a 9-minute difference there. I will have to get back to you on that.

[The information follows:]

The correct information with respect to flight schedule information follows:

There is a typographical error in the first line of the chart shown on page 15 of the report. The departure time on that line should read 0950L vice 0959L. Iran Air Flight 655 was scheduled to depart Bandar Abbas at 0950 local or 0620Z, but actually took off at 1017 local or 0647Z, therefore the takeoff was 27 minutes late.

Senator Levin. In any event, it appears to me, reading in the report, that our information was that it was supposed to take off at 9:50. In fact, it was scheduled to take off at 9:59. That is the way I read this report, and that is the way I explain the discrepancy.

In any event, it took off at 10:17 local time and you indicated, I believe, that——

Admiral Kelly. Sir, that is 10:17 local Bandar Abbas time, which is 30 minutes different from the time on the clock on the ship.

Senator Levin. I understand. You testified today that at 6:48—excuse me. Go to 6:50. When you testified what happened at minute 6:50, you say that one of the people on the ship indicated that this was possibly a commercial airliner. You indicated that that is what happened at 6:50.

Could you expand on that a bit? I do not see that in the report, although it may be here. When I look at minute 6:50 in the report, I do not see a reference to that statement that you made today that someone on the ship told the commander it was possibly a commercial airliner.

Admiral Fogarty. Yes, sir. It is in the report, in the findings of fact, and I will have to get the page for you here in a minute.

The CIC officer who was standing behind the commanding officer was not on a console. He was moving back and forth, and called out to the commanding officer "possible commercial air" at 09:51. The commanding officer raised his hand and recognized that, and the commanding officer in his testimony afterward said that he did hear that.

Senator Levin. If this plane was a commercial plane, should we not have known that the plane had not yet taken off? Wouldn't we have tracked a 9:50 departure or a 9:59 departure and should we not have known that the plane, scheduled to leave at 9:50 or 9:59 had not taken off on schedule and therefore this could be that plane? Do you see what I am driving at?

Admiral Fogarty. Yes, sir, I do. But you have to also understand that, whether it took off on schedule or not, there were other things going on then at that time. It took off from a military/civilian airfield. We have no way of knowing if that is a civilian aircraft or not.

If—and I say "if"—Iran were to conceal an actual attack, it might make sense to take off at that time. The fact that he was engaged in a surface engagement at that time while the aircraft took off, thinking again back to the 18th of April when they launched aircraft while we were in a surface engagement, the setup that he was in at the time with the P–3 that could be targeting, those are the critical elements, not that fact that the airplane took off on schedule or not.

Senator **Levin**. Let me come back to that. My time is up.

Senator **Exon** [presiding]. Thank you, Senator Levin.

Senator Cohen.

Senator **Cohen**. Thank you, Mr. Chairman.

Admiral Fogarty, let me ask you this. How many crewmen and officers are involved in the detection and engagement of a target with an Aegis system?

Admiral **Fogarty**. In the actual CIC? Nick, do you want to take that one?

Senator **Cohen**. I want to ask you to compare it with other systems. For example, if you have, let us say, 10 crew members, each of whom have to perform three functions in a sequence, you have roughly 30 links in a chain. In any one of those links something could occur which could produce an error.

How would that compare, for example, to other systems that you have?

Captain **Gee**. Yes, sir. The entire detection through engagement sequence on an Aegis cruiser, the minimum number that one would need generally to operate effectively would be three crew members—and I am excluding the captain or the tactical information officer—those who would just process the track and execute the engagement in the manual mode in which the ship was in.

The ship has an automated capability which was not used that day, which would allow the engagement to be processed, detect through by engagement, by one person. Normally, including the commanding officer, the tactical action officer, you would find four to five people engaged in sorting out, deconflicting and managing the air picture on the ship.

Senator **Cohen**. And how many sequential actions would they have to take from the time of spotting the target and then actually carrying out the target acquisition and firing?

Captain **Gee**. Depending upon the level of automation the system is in, they could go from no actions at all all the way to only monitoring what the system is saying, and then two or three pushbutton actions will execute the engagement. The system automatically detects, automatically tracks. An identification operator may want to do some manual operations, and then for the engagement it is a matter of a single button or two plus the captain turning his firing keys.

Senator **Cohen**. Would you refresh my recollection? Was there something in the report on the *Vincennes* incident dealing with one of the operators repeatedly pushing the buttons in the wrong sequence and nearly not being able to fire under those conditions?

Admiral **Fogarty**. Sir, the AAWC was having difficulty in pushing the right buttons to illuminate the target. This is not the firing of the missile. This is putting the fire control radar into an illumination mode. It finally got straightened out. This was not a contributing factor, by the way, to the shootdown.

Senator **Cohen**. I understand. I am trying to find out how complex the systems are, how many actions have to be taken, and then to work into that the stress factor. Now the GAO, in looking at this, said, "In sum, the absence of stress biased the results in favor of Aegis and left actual performance in a more real and stressful environment unknown."

One of the questions being raised by this is whether or not the men are actually being trained under stressful situations, which may be wholly unrelated to simple training exercises where you do not have the chaos that might prevail in a wartime scenario, and where the complexity of the systems, when added to the stress of combat, in fact contribute to errors of this sort.

Now my understanding is that the ship was in a tight turn, as a matter of fact, because of the combat scenario it was engaged in. There may have been matter tumbling out of lockers and a lot of shouting going on and not necessarily chaos, but at least a somewhat more chaotic situation than a normal, nice, planned operation.

The question is, what sort of training does the crew get in operating very sophisticated systems in which the punching of buttons in the wrong sequence can in fact either fail to engage a target or perhaps, in this case, contribute to misreading the information that was produced by the Aegis system?

Captain **Gee**. Senator, of course there is no way that we can replicate the exact psychology and the difficulty of combat.

Senator **Cohen**. But you do, for example—and this is stretching the point—but I know that Senator McCain obviously went through a number of training missions in terms of how to cope with stress if he were ever captured. For example, how to deal with interrogators, and the situations they will try to impose to increase stress. I would assume that it would not be unrealistic to ask that people who are going to be put in charge of dealing with a very complicated system also get training in terms of stressful combat scenarios.

Captain **Gee**. Sir, the normal operations of the ship, in fleet operations of the ship the general environment in CIC is very, very stressful. The ships and these young sailors are controlling Navy aircraft. They are sorting out 50, 60, 70, 100 aircraft at a time when they are operating normally.

We routinely run events against these ships with 30 or 40 aircraft raids against them in the most intense environment that we can replicate, short of having those threats firing at the ship, which may make a difference.

Finally, all of our missile ships fire training exercise weapons and I can tell you that for the safety aspects alone of going onto a Navy range and firing live weapons against targets is a very stressful event. However, I certainly would not suggest, Senator, that in any way that replicates actual combat.

So we do not at this time give specific formal stress training to our people. That will be something that we are going to look at.

The normal operational environment, though, on a ship is inherently stressful in itself, and, depending upon the intensity of an exercise or event, those stress levels vary accordingly.

Senator **Cohen**. Mr. Chairman, my time is up. Thank you.

Chairman **Nunn** [presiding]. Thank you, Senator Cohen.

I believe Senator Kennedy is next. Senator Kennedy.

Senator **Kennedy**. Thank you very much, Mr. Chairman.

Admiral Fogarty, I think one of the easiest things that any of us can do is always second-guess in any of these situations, in particular in combat situations. I think that that is certainly done frequently, and I think you have given a fair kind of an assessment. I would hope that the purpose of these hearings is what can we draw from this kind of a tragedy that can be helpful and useful in trying to guide the military in preserving and protecting its interests and the life and wellbeing of its personnel.

But in situations such as this, which we might consider the low-intensity conflict, we may be involved in for years to come and certainly there seems to be or will be perhaps different kinds of military threats in those situations. Perhaps there will be a number of things which will be consistent; the continuation of the use of commercial airliners, for example, which we might expect whether we are going to be involved in the Persian Gulf or in other areas where there is going to be a potential threat or a real threat to America's interests.

You have obviously given us a very comprehensive review of what was happening on the *Vincennes*. You have also talked about what was happening on the ship *Sides* as well, and there is obviously a different circumstance. One is under the kinds of heavy gunfire for 20-odd minutes with all of the implications it has; the other is not. One is in more of a direct line of what might appear to be a threat; the other is not.

In your own conclusion in reviewing what happened in the *Sides* versus what was happening in the *Vincennes,* did you draw a conclusion that the principal difference is, one, that the *Vincennes* was under attack, two, that it was in the line of fire and, three, that it may have been the misrepresentation or the misreading of the altitude and therefore *Sides* reached a different conclusion?

Or were there other steps, other procedures in the *Sides* which permitted it to draw the right conclusions in terms of the altitude of the plane? Because it is very clear in reviewing at least the chronology that the *Sides'* officers were given information in terms of the plane leaving Bandar Abbas that may very well be an F-14; then they drew the conclusion that since the plane was not approaching directly and because it was flying at 11,000 feet, even an F-14 is not likely to attack a surface ship.

How should we evaluate that? I understand the report on the altitude was not just one report but it was a second report, reviewing the altitude is subject to more than one individual reviewing a particular dial; it is several at different times.

I am not that interested in getting into the details of it, but what can you tell us? Did the system work well in one situation and not in another? Do you draw certain conclusions because of the stress factors and, therefore, we ought to draw the conclusion that those aspects ought to get additional kinds of attention in terms of training and in terms of other types of activity?

Admiral FOGARTY. Yes, sir. The *Sides* situation—and I think you said that—is that they were in a different situation. They were not being directly threatened with a closing contact that was coming directly at them. They did not dispute the F-14; as the commanding officer of the *Sides* said, I did not dispute that.

It is a different situation when you are not being immediately threatened, and I believe that was the overall determination in the commanding officer of the *Sides'* determination.

Senator KENNEDY. This at least for me is important. Is it primarily the issue of stress and tension of the combat situation that you draw? There are obviously others, but is that one of the prime and most significant differences in terms of the conclusions that were reached?

Admiral FOGARTY. It could be, Senator, but we need to also understand the time lines here. The information that *Vincennes* had, as we compare it to the tapes and also compare it to the *Sides*, was correct up until 15 miles, which is about a minute before firing. So they were doing things right. The system was working right.

As I said in my report, I could not reconcile why after the 15 nautical miles there were calls of decreasing altitude. I also said in the report that it may be due to combat stress. I do not know.

Senator KENNEDY. Was that just one individual call or is that more than one individual looking at the instruments that reached that conclusion?

Admiral FOGARTY. There were two or three people who in testimony after the fact said that they did see a decreasing altitude.

Senator KENNEDY. At more than one instance? As I understand it, they made the call on two different occasions, as I read the report.

Admiral FOGARTY. Yes, sir. The exact times of the calls are very difficult to establish, the reason being that most of that was passed over the internal phone circuit which we did not have a recording of. We had to relate it to the time of the firing and move back from there.

Senator KENNEDY. They had, as I understand it, a decreasing altitude from 11,000 at 15 miles, and then at 12 miles out the altitude had dropped substantially. So evidently there was a judgment made at one time at 15 miles, a judgment made at a second time at 12 miles.

Both from those judgments from these two or three individuals that were reading the instruments indicated the decline and your own kind of review about how they reached that conclusion on two different occasions, do you have any insight other than what you gather is the combat situation which evolved, as has been pointed out in dramatic and radical terms, a continued kind of harassment from surface ships?

Admiral FOGARTY. Sir, I cannot reconcile it. I know we had a disparity and I cannot reconcile it.

Senator KENNEDY. Have we assumed a position of now monitoring the commercial traffic in those areas from airlines? Is that important? Is it not important? Did you reach any conclusion in terms of just monitoring what is happening in the various commercial areas and relaying that to the Navy? Can you give us any insight? Is it useful? Is it not useful? Is it burdensome? Do we have any equipment or trained personnel?

Admiral **Kelly**. Sir, if I might, we have embarked on a number of initiatives to do that very thing. The volume of air traffic over there is enormous, over 1,000 a week, if I am not mistaken. It would be virtually impossible for us to track every airliner, but we are trying to establish some procedures in conjunction with the ICAO, the GCC states and airlines that fly over that air to do the very thing you are talking about, sir.

We are not there yet, but we are working hard on it.

Senator **Kennedy**. I imagine there is a lot of private traffic as well.

Admiral **Kelly**. Yes, sir.

Senator **Kennedy**. Thank you very much. Thank you, Mr. Chairman.

Chairman **Nunn**. Thank you, Senator Kennedy. I believe Senator McCain is next.

Senator **McCain**. Thank you, Mr. Chairman.

Admiral Fogarty and Captain Gee, I would just like to follow up a little bit on what Senator Cohen said. I think you should review the kinds of exercises that the crew of the *Vincennes* underwent. As we all know, there are various kinds of exercises. There are those that are very, very predictable—A, B, C, D, and E—and we know what is going to happen next, and those kinds of—I am not sure if we would call them stress training but perhaps confusion training—kinds of exercises.

And perhaps these should be applicable to a lot of ships as well.

Captain **Gee**. Yes, sir. We will certainly do that. And, as one of the recommendations, the Navy will look very carefully into stress and I think particularly with regard to dealing with digital information in a stressed environment.

I think all of us could agree that looking at an analog watch as compared to a digital watch when times are busy that the opportunity for error may be somewhat higher. But I did not want to leave the impression, Senator, that we were not going to do that. We absolutely are going to try and get our best hand on the stress environment using digital systems.

Senator **McCain**. And an environment where you get misinformation. Clearly the statement made by unknown sources that it was an F-14 I think was a critical factor in this whole decisionmaking process.

Admiral Fogarty, I would like to go to the big picture here for a second, if we could ask your assistant to put that radar picture on the screen, both surface and air, that the captain was looking at there in the CIC. I have seen it, so I will go ahead with my question.

The question I have—and there have been many comments in the media—here we are in a situation where, as one of you just stated, the captain is looking at hundreds of aircraft, tens of surface contacts, surface engagement has been taking place. The question is, and I would like a subjective answer, should the *Vincennes* have been in the geographic position that it was in?

Would not have any commanding officer or crew had the likelihood of being overwhelmed by events by being where it was geographically? The graph I was looking for, sir, was the one that has the Straits of Hormuz outlined in it as well.

Could not have the *Vincennes* done its job at a much greater distance?

Admiral FOGARTY. Sir, the reason the *Vincennes* went that far north is that there was a distress assistance call earlier that morning from one of the merchant ships. As she was investigating that, her helo was taken under fire. She proceeded north, requested permission to continue on north to investigate.

As she got closer to the action, two of the Iranian IRGC boats turned toward her in a threatening manner. In order for her to get into position to correctly engage—again, she was closing—she regrettably ended up under airway Amber 59. But her position—and please note, sir, that is the Strait of Hormuz, and one of the advantages of an Aegis cruiser is the Silkworm capability that she has.

So perhaps being that close was not necessary to go against the Silkworm, but in the other case she did have a situation where she was going to the assistance, as was the *Montgomery*, for a distress call, and her helo was taken under fire.

Senator MCCAIN. Admiral, should a ship that expensive be committed in that scenario, from your subjective viewpoint?

Admiral FOGARTY. I will let Admiral Kelly answer the policy question on this, but I would just say myself she is the most qualified ship to go against the Silkworm in our inventory, in my mind, subjectively, if we were to have a Silkworm attack over there that day, she would have been the best ship to handle it.

So I would, if I were the commander, like to have an Aegis ship around if we have a Silkworm threat. That is a personal, subjective answer to your question. But perhaps Admiral Kelly can answer the policy side.

Admiral KELLY. I would just like to add, sir, that the reason *Vincennes* was sent over there resulted from the engagement that occurred on the 18th of April. In fact, the decision was made to send her because we did not know which direction Iran was going to go in at that time and, of course, we had evidence that they had continued construction on the Silkworm sites.

And in fact she was pulled out early of a fleet exercise and given very short notice to deploy over there. So the specific reason that the Chairman decided to deploy her in this case was to counter the Silkworm threat.

Senator MCCAIN. The latest task force that was sent over, though, an Aegis cruiser was left out of that group; is that not correct?

Admiral KELLY. That is correct, sir.

Senator MCCAIN. Has the threat changed?

Admiral KELLY. No, sir, it has not. Let me add that the *Vincennes* was going to be relieved by the U.S.S. *Mobile Bay*, also an Aegis cruiser. It has been evaluated that, since the ceasefire occurred, that it would be prudent to bring *Vincennes* home on her normal time without relief. And that is what in fact is occurring.

As it turns out, the next battle group that goes over there, sir, does have an Aegis cruiser in it.

Senator **McCain**. I would hope a lot of them would be brought home very quickly since I personally think we are making the classic mistake we always make of leaving people in ships under very difficult conditions there way too long.

I just want to finally ask, Admiral Fogarty, how do you account for the fact that the 5-inch guns and Phalanx were both inoperable on the *Vincennes*, or is that correct information?

Admiral **Fogarty**. No, sir. They were both operable. The only significant casualty they had was the forward-mount, the forward gun on the *Vincennes*, after firing several rounds, had a hung round, a foul bore, as I am sure you know. She still had her after-mount, and that was the reason she turned quickly, is to unmask her after-mount. One of her two CIWS mounts was inoperable.

Her number one CIWS was up. Everything was up on the ship. The only significant casualty she had during the whole evolution that we could determine from the investigation was the forward-mount, Mount 51, with the foul bore.

Senator **McCain**. Thank you. My time has expired. Thank you, Mr. Chairman.

Chairman **Nunn**. Senator Exon will be next, but I think he is willing to yield to Senator Thurmond. Senator Thurmond is being called to the floor. Senator Thurmond.

Senator **Thurmond**. Thank you very much, Mr. Chairman. I also wish to thank Senator Exon for his undue courtesy.

Admiral Fogarty, any statements I have made up to now, of course, have been in defense of our actions there. There has been some discussion in the media that the Aegis system, which was designed for high threat scenarios, was not capable of handling lower-threat scenarios in which a mix of civilian and military aircraft could be expected to operate.

Would you comment on that?

Admiral **Fogarty**. I will comment and then I will ask Admiral Gee to comment also.

I think the *Vincennes* was very capable of handling any threat, and let us not, please, sir, demean the fact that that was a low threat. In the eyes of the commanding officer, he was under fire, which he was. He believed he had a closing contact that was coming after his ship. Perhaps it was not as high speed as some of the threats could be that would be coming after you in the air, but it was still high speed.

So it was in fact a situation that day that I would consider to be not ultra sophisticated but yet certainly threatening to his ship in a multi-threat environment.

Captain **Gee**. Senator, I think that of the 11 Aegis ships which are at sea right now, that those commanding officers and those battle group commanders and fleet commanders would uniformly say that the Aegis capability, regardless of scenario, is the finest AAW capability we have if our objective is to provide the best defense we can to our American sailors and our American forces.

The gulf is certainly a very difficult scenario. No one denies that. But there is nothing inherent in the system which would suggest that the Aegis cruiser could not have performed as well, and every indication it should have performed better than any other AAW ship in our inventory.

So I am very comfortable that the decision to put the ship in the gulf there in that environment was not an unusual environment for either the crew or the ship.

Senator THURMOND. If any of you had envisioned that an event like this could occur, is there anything that has ever occurred to you, steps you might take, to advise the crew with regard to preventing it?

Admiral FOGARTY. Sir, in my own mind in trying to put myself in the commanding officer's shoes that day or the crew, I have to go back to the fact they felt they were threatened. What should have been done to prevent it, in my mind, is Iran get their aircraft up to an altitude and away from a firefight so that our sailors and our commanding officers do not have to prove that it is in fact a commercial airliner.

That is being done now. As Admiral Kelly said, the Iran Air flight now climbs to 26,000 feet before it goes over the gulf, and our commanding officers and our crews know that that is a non-threat until it shows differently.

In direct answer to your question, they did what they thought was right that day to protect their ship, and the commanding officer was convinced he was being threatened. And to protect his ship and his crew he did what he thought was prudent, and my investigation agreed with that.

Senator THURMOND. Now, Flight 655 did not identify itself, I believe is the evidence. Can you imagine why they did not identify themselves? Have you obtained any testimony as to why they did not? Did they claim they didn't receive the information or they did not understand English? Or just what has been the result?

Admiral FOGARTY. Sir, one of the items I was unable to find in the investigation was the confirmation of their receipt of the warning transmissions. We asked Iran for the black box and we were not given that information. I had hoped to have obtained that so I could then say Flight 655 did receive the transmissions from the ship.

We do know from other sources that the transmissions did go out. They were in the air and they were heard by several people. I cannot answer you, sir, why or if she received them or not because I do not have the evidence at my hand, and I understand the black box may not be retrievable at all, so we may never be able to get this information.

Senator THURMOND. Is there any equipment in the world today by any nation so sophisticated that it could identify a military ship from a civilian ship?

Captain GEE. Yes, sir. I presume you mean from a non-cooperative platform. We have equipment between two friendly vehicles—aircraft or ships—where they can respond back to one another in a coded fashion and positively identify themselves. For one ship to make an inquiry of a non-cooperative target such as the Airbus there are technologies available which in different environments and to different ranges provides some degree of information regarding what that platform may be.

Those are all being looked at now. It is known as the non-cooperative target recognition program. It is under way. There is no miracle piece of equipment, however, available right now on the shelf which gives us long-range, positive, non-cooperative identification.

Senator **Thurmond**. Now, one last question. Since this event has occurred, has there been any effort to work with Iran or has there been any contact made with them with regard to the departure of their ships so that we can understand and differentiate between military and civilian ships?

Admiral **Kelly**. Senator, let me take that one. I presume you are referring to the aircraft flights, whether we can tell whether they are military or civilian aircraft.

Senator **Thurmond**. Has Iran agreed to cooperate or not, or have we taken it up with them?

Admiral **Kelly**. We have not had direct conversations or talks with Iran on that, but through the ICAO organization that I spoke of earlier we are trying to arrive at some accommodation, sir.

Senator **Thurmond**. In other words, you have not been able to arrive at any arrangement or agreement with Iran so that an event like this could be prevented in the future?

Admiral **Kelly**. We have not made any arrangements with Iran, that is correct, sir.

Senator **Thurmond**. Who is taking that up with them—the State Department or the military?

Admiral **Kelly**. We are working through the International Civil Aeronautics Organization to effect that very thing.

We know the information we are recommending is getting through to them. For example, we know that they are not flying their airliners at 26,000 feet or so across Amber 59, and we think, of course, that is part of their agreement with our recommendations, although we are not talking directly, sir.

Senator **Thurmond**. Would the United Nations handle a matter of that kind?

Admiral **Kelly**. ICAO is a part of the United Nations, sir. It is a U.N.-sponsored group.

Chairman **Nunn**. Senator Thurmond, I am going to have to interrupt. Senator Exon.

Senator **Exon**. Thank you, Mr. Chairman.

Admiral Fogarty, let me start out by saying that the captain and the crew of the *Vincennes* did the only thing that any prudent man would do under the circumstances stated so at the time of the event. This is a tragic, tragic accident for which we as Americans are primarily responsible, in my view.

We can try to blame Iran for some of the actions that they did or did not take. The facts of the matter are very simply, in my view, that a tragic accident took place. But I suggest that there are few of us in this room that would have done anything different under the circumstances that were facing the captain and the crew of that ship.

My questions have to do with what I think is the main reason for your investigation, which is to see that such an incident not be repeated in the future, both by ourselves and other nations. We all know that the Airbus carries a navigation and weather avoidance radar system whose signature is known to us and to all.

I am curious as to whether or not your investigation indicated why neither the *Vincennes* nor any of our other warships in the area evidently picked up the signature that would have been normally expected to be easily recognized. Was the system not operating?

Admiral **Fogarty**. Sir, again I was unable to determine whether she even had it turned on. They were in the frequency bands that cover commercial radar emissions from that system, and we did not pick them up. But again without getting the black box or being able to talk to Iran I could not determine whether she actually had it turned on or not, and probably only the black box could tell us.

Senator **Exon**. What would normal aviation procedures have dictated? We have to assume, I guess, under the circumstances, not knowing anything different for sure, that a switch in the airliner was not thrown. Normally that system would have been turned on when an Airbus takes off; is that right?

Admiral **Kelly**. That is very subjective. We do not know what their procedures are, sir. But, having several friends who fly for the commercial airlines and asking the same question, they would use the weather radar in many cases depending on whether they thought they had weather out in front of them or not.

The weather that particular day was clear, with 8 or 10 miles visibility. So they probably did not have it on. One of our recommendations is that when flights are over water in that area that they keep that on so that we can identify them, sir.

Senator **Exon**. I guess the answer to my question, then, is that that would have been basically a pilot's determination as to whether or not that navigation system should or should not have been on. Is that right?

Admiral **Kelly**. Yes, sir.

Senator **Exon**. And given the weather conditions at the time it could, therefore, be concluded that the pilot was right in not turning it on?

Admiral **Kelly**. That is correct, sir.

Senator **Exon**. Let me ask this question of you gentlemen. Admiral, had there been an AWACS in the area at the time that this battle was going on on the sea and at the time that the Airbus took off, would the information that the AWACS could have picked up, have likely prevented the tragedy?

Admiral **Fogarty**. No, sir, I do not believe so. Unless you can visually identify exactly what that is there, the information that the AWACS would have had would have been the same information as the *Vincennes* or the *Sides*—range, bearing, altitude, IFF.

Senator **Exon**. Are you saying, then, Admiral, that an AWACS flying in the area could not have made any different determination than the *Vincennes* did with regard to whether or not that was a commercial airline or an F-14? Is that what you are saying?

Admiral **Fogarty**. Sir, what I am saying is that the information that the AWACS would have provided, unless she were able to actually fly right next to the airliner, which would be impractical--

Senator **Exon**. I understand. I am talking about an AWACS some distance away. You know, the beauty of an AWACS system, as we all know, is that it has a very long range. It can see a long way away with its radar system. You are telling me, then, that even if an AWACS had been in the area you do not think that would have contributed to the avoidance of this tragedy?

Admiral **Fogarty**. In my personal opinion, no, sir, although it would have provided one more means of giving information on the contact as to altitude, range, and the squawk which she was squawking at the time.

Senator **Exon**. That leads me into another question. I have been one from the very beginning who has been extremely critical as to why is it that we have not been granted by friendly Arab states in that region, whose oil lifeline we are protecting at the risk of our ships and our men, landing rights for both AWACS and fighter aircraft?

Admiral **Fogarty**. Sir, I believe we have asked them. But this is really beyond the scope of my investigation, and I really have to defer. Maybe Admiral Kelly can answer that, but I cannot.

Senator **Exon**. Admiral.

Admiral **Kelly**. Sir, we do have landing rights in some countries over there that we fly the AWACS in the area. We do not have fighters over there, which I think you are referring to right now.

I do not want to get above the classification of this hearing. But if we had a fighter in that particular area, we probably would not station them in the Strait of Hormuz, because that is right in the envelope of the air defenses which is associated with the Silkworm site.

So the question is, could a fighter have gone and visually identified this airliner in the time available? It is a subjective answer, but I would think no.

Senator **Exon**. My time is up. My last comment, Mr. Chairman, would simply be that if we conclude that we are adequately protecting our ships and our men without better air cover than we have in the gulf, without landing rights there, then it is a far cry from what I have customarily accepted would be maximum protection and maximum effectiveness for our forces in the area.

And that is why I think we should have more bases for fighter aircraft in the area.

Thank you, Mr. Chairman.

Chairman **Nunn**. Thank you very much, Senator Exon.

Admiral, I know there are parts of this report that are classified, and before I ask this question, I want to make sure that I an dealing with one that is unclassified. You have read the August 5 first endorsement on Rear Admiral Fogarty's letter of July 28, 1988, from the Commander in Chief, U.S. Central Command, to the Secretary of Defense. That is General Crist's letter.

You have read that, have you not?

Admiral **Fogarty**. Yes, sir.

Chairman **Nunn**. And that is unclassified as I understand it?

Admiral **Fogarty**. Yes, sir. There is an unclassified version which you should have there.

Chairman **Nunn**. I have got what appears to be an unclassified version here.

Admiral **Fogarty**. There is a classified version and there is an unclassified version. I believe the one you have is the unclassified.

Chairman **Nunn**. The one I have is deleting certain names and so forth.

Admiral **Fogarty**. That is the unclassified version, sir.

Chairman NUNN. Let me just read a couple of things here and get your comment and see whether you agree with this.

On page 2, the bottom of page 2, continuing on page 3, General Crist, and I assume he is giving his interpretation of this report, says down at the bottom, little number one:

> The primary source for the reports that the aircraft of interest was rapidly decreasing in altitude at 1,000 feet per mile, and increasing speed on a course directly towards U.S.S. *Vincennes*, was the TIC [deleted]. He apparently interjected these reports on the ship's Command Communications Circuit 15 every time he had the opportunity "to make sure they were staying informed and [deleted] getting too side-tracked by the surface engagement where they were forgetting about the guy coming in."

And then he goes on, and I'll skip the next part. In the final part of that paragraph he says:

> Toward the end, it is reported he was yelling out loud.

Then over on page 5 of this same General Crist memorandum down under f, little number 2, quoting this again: "In the final minute and 40 seconds, the AAW tells his captain"—AAW being—would you give us those initials? What is AAW?

Admiral FOGARTY. This was the Golf Whiskey, the anti-air warfare coordinator.

Chairman NUNN. Again going back,

> In the final minute and 40 seconds, AAW tells his Captain as a fact, that the aircraft has veered from the flight path into an attack profile, and is rapidly descending at increasing speed directly toward U.S.S. *Vincennes*. Even though the tone of these reports must have seemed increasingly hysterical (yelling and shouting), the AAW made no attempt to confirm the reports on his own.

I would just like for you to comment on that. Is that consistent with your finding? Because those words, like "hysterical, yelling and shouting"—I know there is excitement, but I just want you to tell me what the normal operating mode in a ship in these circumstances is.

Do you have that kind of yelling and shouting and what General Crist has described, "increasingly hysterical"? Is that normal under these circumstances?

Admiral FOGARTY. Sir, we try not to be hysterical and we try not to make too much noise, and generally we do a pretty good job of it. On that day, I do not know for sure how much of this went on. It was reported that there was noise and there were some people yelling out ranges and bearings.

It would be, of course, in an ideal situation, everything quiet and everybody talking in a calm tone like we are doing right now. But on that day there were a lot of items, as I have mentioned before, that caused the excitement or, as I say, the pucker factor, to rise within the Combat Information Center.

And one element of that that manifested itself is that people were raising their voices above what we would like to see. In an ideal situation, of course, there is just a quiet din of background noise.

Chairman NUNN. Let us do not say ideal, because combat is not ideal.

Admiral FOGARTY. That is my point, sir.

Chairman NUNN. Let us say in a combat situation. I am asking you, is that the kind of communication necessary or usually to be expected in a combat situation?

Admiral FOGARTY. Sir, in the situations I have been in—I have been in combat once. It gets noisy and people get nervous and people get stressful, and you try to get people's attention and the noise level rises.

I am sure my colleagues may want to comment on that, too.

Chairman NUNN. Do you disagree with General Crist, then, when he uses the word "hysterical," or do you agree with that?

Admiral FOGARTY. Well, that is the way General Crist read it. I don't believe I used the term "hysterical" in my report.

Chairman NUNN. Did you use the term "yelling and shouting"?

Admiral FOGARTY. In my report in the testimony, there was one part there that mentioned shouting, yelling and shouting. I believe the word "yelling" was actually used and "shouting" was, yes.

I did not use the word "hysterical."

Chairman NUNN. And you are saying that, let us say in exercises—I know there is no exercise like real combat, and I have never been in combat, so I am not one to even try to make a judgment on this. But I am just trying to get your judgment.

In combat exercises, is it the goal of the exercise, even when they put stress on, to simulate as nearly as possible actual combat conditions?

Admiral FOGARTY. Yes, sir, the ones I have been associated with, yes.

Chairman NUNN. Is it necessary in that kind of situation to raise the voice levels very high and shout and yell? Is that to be expected?

Admiral FOGARTY. It could, although that is not the norm. But I have also been in exercises where the team that is evaluating will purposely raise noise level to see if you can get above it and get yourself settled down. But perhaps Captain Gee could talk to that.

Chairman NUNN. Captain, do you want to comment on this?

Captain GEE. Yes, sir. Our goal is certainly to train to a cool, highly disciplined, quiet fashion. I cannot think of anything more difficult that we train in our Navy, than that of keeping a whole lot of people who are talking to one another under control, as the stress and pucker factor builds.

There are times when stress gets out of control. We try to work on it. We try to emphasize to people, as one would to a football team, that the cooler and calmer we remain, the better off we are going to be in the long run.

So there is a lot of emphasis on that. We are dealing with a variety of people in a very dynamic circumstance, and we certainly are not perfect. We encounter the same type of thing, aside from an operational situation, when we do damage control, when we have simulated fires and flooding and those type of events on the ship.

And the reason that we try and make it as realistic as possible is to get people to realize that if they do not remain cool under this type of stress, they are not going to function as well as they can with the team. But we never achieve perfection.

I cannot make a judgment on General Crist's comments. I can tell you that maintaining cool, calm people in communications during stressful or battle environments is a very difficult task. Human nature makes it so.

Chairman **Nunn**. As the captain of a ship, you want that kind of condition, though, so that you can make your own decisions and hear the right people at the right time, do you not?

Captain **Gee**. We strive for it on a continuing basis.

Chairman **Nunn**. Captain, the investigative report—and this is somewhat related—contains the following opinion:

> The Aegis combat system's performance was excellent—it functioned as designed. Had the commanding officer of the U.S.S. *Vincennes* used the information generated by his command and decision system as the sole source of his tactical information, the commanding officer might not have engaged Iran Air Flight 655.

That is from page 43 of the report. This opinion seems to state that the machinery, the equipment, worked fine, but there was certain human error here—and we have talked about that some—that was interposed. That raises the question: is not how any kind of complex, even sophisticated equipment interfaces with human beings in normal circumstances a key determining factor about the equipment itself?

In other words, the equipment-human interface is, it seems to me, all-important as we become more and more sophisticated. Do you agree with that?

Captain **Gee**. Yes, sir. The human factors engineering is very important.

Chairman **Nunn**. When you say the technical part of the system worked fine and, using the words of the report, "if that was the sole source of tactical information, the commanding officer might not have engaged Iran Air Flight 655," do you believe in the broadest sense that the Aegis system human-equipment interface worked fine?

Captain **Gee**. Yes, sir, we believe it did. I have had command of two Aegis cruisers myself. The system does provide a great deal of information. There is a requirement to learn how to use it properly—what information is most vital to you and use it properly.

But I think the human factors engineering right now is very good. Notwithstanding that personal observation of mine, we are certainly going to again review exactly what we display and how we display it to see if there are better techniques which might be used to make it even more user friendly and compatible than it currently is.

Chairman **Nunn**. So your personal judgment is that the interface between equipment and human beings did work, but you believe that is a question that should be raised. And I guess you are saying it is probably an open question and still being looked at in this case as it pertains perhaps to the future, is that right?

Captain **Gee**. It is a recommendation of the investigation, and we will do that. That is part of the Secretary of the Navy's directed panel review of all recommendations. We will take a look again and review the entire human factors engineering and the entire display formatting within the system.

Chairman **Nunn**. I guess the bottom line is you can get equipment that works perfectly, and if humans are not interfacing with it in also a perfect fashion then that "perfect" information becomes irrelevant to the outcome of the total product, does it not?

Captain Gee. Well, we certainly try and provide the best information and the most accurate information we can to the operators. But there are a multitude of decisions which are going on in the human being's mind, which far exceeds the capacity of that system.

I think that of all of the decisions that we have talked about today the fragmentary errors, whether it be altitude, that type of thing, the fundamental matter of it in my judgment is that those were merely pieces the captain was putting together which may have taken some of the burden of proof from his shoulders as to what he had to do.

But fundamentally, the only thing that could have dissuaded—I can't speak for him—was in fact positive communication and response from that aircraft after eight tries. That is the only thing that could have given the captain positive confirmation of what was going on.

Chairman Nunn. Certainly, based on the information he had at his disposal at that time.

Captain Gee. That is correct, sir.

Chairman Nunn. Senator Warner.

Senator Warner. Thank you, Mr. Chairman.

I would like to pick up on that. And again, I have got to be cautious, as do other members. As a member of the Intelligence Committee, I looked at this situation, and I have seen a lot of classified information that we do not want to in any way get into.

But you mentioned the things that were in that captain's mind at the time he had to make this decision, and I certainly think today and I believe all others agree, that he did the right thing under the circumstances. But there was another element, it seems to me, that had to be in his mind, and that is the historical precedents with respect to how the Iranians had conducted not only actions against our naval units, but actions on land against the Iraqis, where they send drove after drove after drove of their young people into the face of absolute suicidal situations.

They have no respect, in fact they had utter contempt, for life in the manner in which they drove members of their military on land and, in my judgment, on sea, the way some of these small boats began to attack our naval units and other military units in the gulf situation—tiny boats coming up against men of war of the professional navies, and with little or no chance of survivability.

So that sort of fanatical historical precedent had to be in the mind of the captain, would you not say, Admiral Fogarty?

Admiral Fogarty. Sir, I agree. I think that he was very aware of the Iranian performance in the past and what they were capable of, and that was a factor.

Senator Warner. And to the extent we are not compromising any other intelligence, it seems to me within the immediate 72 hours preceding this incident there were some statements by high-ranking officials within the Iranian Government as to what may or may not transpire in the ensuing few days which embraced this period of time.

To the extent we can comment on that, would you share those factual incidents?

Admiral **Fogarty**. There were some indications—I cannot go into the source of those, but there were some indications that Iran may be planning something for the 4th of July against our forces, sir.

Senator **Warner**. And it was directed toward American units at sea in the Persian Gulf, would that not be correct?

Admiral **Fogarty**. Yes, sir. And the commanding officer of the *Vincennes* was aware of this.

Senator **Warner**. Now we come back to this other question, and that is the question of the letter. At the conclusion of my first examination the time simply ran out, and I want to give both of you the opportunity now to retrace this letter scenario and let us clarify it for the record and for those who are interested.

Admiral Fogarty, you recommended no action, as I understand it. The CINC, who is the immediate supervisor of all military personnel in this geographic area, General Crist of the Marine Corps, did recommend the issuance of a letter. And let us once again describe that letter.

And then that position of the CINC was reversed by his superior, namely the Chairman of the Joint Chiefs, and the decision of the Joint Chiefs was concurred in by his superior, the Secretary of Defense, acting on behalf of the President.

So let us take that chain and clarify it for the record and give the reasons why those actions were taken.

Admiral **Fogarty**. Well, the chronology and the steps are exactly right, sir.

Senator **Warner**. As I have recited?

Admiral **Fogarty**. As you have recited. I submitted my report; General Crist, who was the convening officer of the investigation, puts his endorsement on it; it goes to the Chairman and then to the Secretary. So that is correct.

I cannot speak for General Crist on his endorsement. Again, he did not feel it was a matter of culpability or negligence and he issued a non-punitive, which is the least offense you can give or punishment you can give, because it does not go in your record and it is just that, non-punitive.

The Chairman—of course, I cannot speak for the Chairman, either, or the Secretary.

Senator **Warner**. Admiral Kelly, can you speak?

Admiral **Kelly**. Sir, if I might, let me read exactly what the Chairman had to say about it. I have his legal advisor, Captain DeBobes, here.

Senator **Warner**. We know the Captain. He's been an advisor to this committee on many occasions.

Admiral **Kelly**. The Chairman said:

> A special word should be said about the administrative censure awarded the individual by CINCCENT. My own review of his performance is that, for the foregoing reasons, it did not constitute culpability. Moreover, the rationale behind a non-punitive letter is to point out lessons to be learned and ways to improve an officer's future performance. It is intended to be a private letter, not part of the officer's record, and not to influence the officer's career prospects.
>
> Due to the unusual public attention directed to this event, I believe that a non-punitive letter can hardly be issued and meet the spirit in which such a censure is intended. Therefore, I recommend that the administrative censure of the individual reported in the previous paragraph be disapproved.

And the Secretary agreed with that.

Captain DeBobes.

Captain **DeBobes**. Sir, in effect——

Senator **Warner**. Perhaps you could come to the microphone and identify yourself for the record.

Captain **DeBobes**. Sir, Capt. Richard DeBobes, legal adviser to the Chairman of the Joint Chiefs of Staff.

In effect, what you have is a non-punitive letter, which is not punishment, not intended to be public, and is not intended to be a matter of record. Admiral Crowe recommended to the Secretary of Defense that the letter not be issued—and in fact it was never issued. General Crist had held up on issuing a letter until the review of the investigation was complete.

Admiral Crowe recommended that the letter not be issued on the basis that the intention of a non-punitive letter could not be met in this case in view of the notoriety surrounding the investigation. The Secretary of Defense agreed with that, and so the letter has never been issued, nor will it be issued.

Senator **Warner**. That comes to the point I wish to make. Does that establish a precedent for future problems—and let us hope there are none, but history reflects that they do occur—in which an officer in the chain of command, such as a CINC, feels certain action could be taken, but there is a lot of publicity associated with this incident?

Where is he left? What are his options to establish the essential requirement of the military, namely accountability from the commander-in-chief, the President, down to the private in the rear rank?

Captain **DeBobes**. I think the essential point here is that this was not punitive action. If in fact it had been punitive, then publicity surrounding it would have no impact on the decision whether you would issue a punitive letter or not.

Senator **Warner**. So are we saying there is no way to do non-punitive letters under these highly publicized incidents?

Captain **DeBobes**. That was the conclusion of the Chairman, and agreed to by Secretary Carlucci, that the specific ingredient of privacy—that is a specific requirement for a non-punitive letter—could not be met here. But it was limited in its scope and precedent to a non-punitive letter.

Senator **Warner**. All right. This is something I'll try to look at further, not in reference to this particular case, but for future precedents. I am just somewhat perplexed. I will take a look at it.

My time has run out, except maybe Admiral Kelly wanted to comment further.

Admiral **Kelly**. No, sir.

Chairman **Nunn**. Thank you, Senator Warner.

I believe Senator Levin is next.

Senator **Levin**. Thank you, Mr. Chairman.

Admiral, let me go back to where we left off. Relative to that commercial airliner schedule, we made reference to the minute 6:50, when you testified as to when somebody jumped up inside the *Vincennes* and said "possible commercial air" to the commanding officer, and that the commanding officer acknowledged the report by raising his hand.

I believe, looking at the minute by minute analysis in your report, that would be at minute 6:51, not 6:50. So could I refer you to that minute 6:51 on page 34, paragraph Q.

Do you see that on paragraph Q there?

Admiral FOGARTY. Yes, sir.

Senator LEVIN. Can you tell us what the commander said went through his mind when he received that report from somebody who jumped up and said "possible commercial air"? What was going through his mind when he got that report, did he tell you?

Admiral FOGARTY. In the question that we had, I asked him that question: What did "com air" mean to you? He said he acknowledged it.

The other elements that were involved in his mind, the fundamental critical considerations, though, are what took precedence over that. And that was the situation that day. He was engaged in a combat situation. The aircraft came out of a combined military-civilian airfield, constant bearing, decreasing range, and he was not getting an acknowledgment.

Senator LEVIN. He was not?

Admiral FOGARTY. He was not getting any acknowledgment of his warnings. In other words, the plane did not turn away or call him.

Senator LEVIN. So that when he testified or talked to you about his own actions that day, you asked him specifically, what did you think when somebody jumped up and said "possible commercial air," and his answer was that these other factors overrode that information? Is that the gist?

Admiral FOGARTY. He acknowledged that he heard "com air." However, the main elements in his decision were the other elements that I mentioned.

Senator LEVIN. And the person who jumped up and said "possible commercial air" or "possible com air" at 6:51, what was the basis of his statement?

Admiral FOGARTY. He did not jump up, sir. He was actually behind the commanding officer, looking over at the consoles the commanding officer and the tactical action officer had.

Senator LEVIN. I am reading. It says he jumped up. Your report says he jumped up.

Admiral FOGARTY. Then my report is wrong. He did not jump up. He was standing at the time. So it was not "Jump." I will have to correct that.

He was standing behind the commanding officer at the time and looking over his shoulder and seeing the CRO, which is the readout we described in the briefing, that showed an increasing altitude and a Mode III readout, which means civilian airliner.

That was the basis upon which he made his call of "commercial air."

Senator LEVIN. After he said "possible commercial air" and received an acknowledgment, is that where he left it, that person? Did he say anything further relative to that possibility?

Admiral FOGARTY. Sir, he told both the tactical action—the anti-air warfare coordinator and the captain "possible commercial air." The anti-air warfare coordinator did not hear him, and in testimony this officer did not say anything along the lines, oh yes, he did hear me. But the captain did say that he did hear it.

Once he made that report—and again, we're talking about now a very short time period—he did not do any more about that. He made his report to the captain and that was it.

Senator LEVIN. The folks on the *Sides* had reached a different conclusion. Were they in any contact with the *Vincennes* at this time? During these critical minutes, was there any contact back and forth?

Admiral FOGARTY. The only exact contact they had, sir, was over the EW reporting circuit. And the link—they were not talking back and forth in the final critical minutes by voice.

Senator LEVIN. Was there any consultation as to the threatening nature of this object between the commanders or between their crew? Did they consult with each other as to, what do you think it is, anything like that?

Admiral FOGARTY. No, sir. Probably if they had more time they would have. But as I said in the report, on the basis of the call of the F-14, the *Sides* did not dispute the fact that that was an F-14.

Senator LEVIN. Apparently there was some growing excitement and yelling in the *Sides* about it being a commercial air. Could you tell us more about that?

Admiral FOGARTY. I believe there were some people in the CIC that felt it was commercial air.

Senator LEVIN. Was there yelling and excitement about that?

Admiral FOGARTY. What page is that, sir?

Senator LEVIN. That is on page 36. An unnamed observer—it is apparently classified, the names here—confirmed growing excitement and yelling about it being commercial air or about commercial air.

What is that?

Admiral FOGARTY. It was one of the people in the CIC. I will have to go back further and find out from the findings of fact exactly who that was who said that there was excitement about the fact that the aircraft was possibly com air. He said he saw in his IFF readout, Block 6700, altitude 11,000 feet.

The 6700 was the basis upon which he said it was commercial air. The Mode III——

Senator LEVIN. The yelling and excitement that I was referring to, what does that mean?

Admiral FOGARTY. "Growing excitement and yelling in CIC about com air," that was in fact aboard the *Sides*, exactly that. There was excitement.

Senator LEVIN. What would be the cause of yelling and excitement? Going back to the chairman's question, why would that not be just a normal statement?

Admiral FOGARTY. Well again, I think they probably thought that it was commercial air. I do not know for sure what was in their mind.

The commanding officer of the *Sides*, who was in the CIC at the time, believed it was an F-14, because he said he did not dispute the fact that it was an F-14 when the *Vincennes* made that call.

Senator LEVIN. Despite that yelling and excitement?

Admiral FOGARTY. That is correct.

Senator LEVIN. My time is up.

Chairman NUNN. Thank you, Senator Levin.

Senator Exon.

Senator EXON. Thank you, Mr. Chairman.

Admiral, I would like to go into the air cover problems, real or imagined, that we have in the gulf. As I understand it, we have no land-based fighter cover in the gulf, is that correct?

Admiral FOGARTY. Air Force fighter cover? That is correct, today we have no Air Force fighter cover.

Senator EXON. Pardon? I beg your pardon?

Admiral FOGARTY. We have no Air Force fighter cover today, nor did we on the day of the incident, yes, sir.

Senator EXON. The only fighter air cover that we have then are fighters off the carriers, which are located for the most part considerably south of the Straits of Hormuz, is that correct?

Admiral FOGARTY. To the east. The Straits of Hormuz, as you know, sort of make an inverted U. They are on the west side——

Senator EXON. All right. Somewhere, some distance from the Straits of Hormuz, is that correct?

Admiral FOGARTY. Yes, sir.

Senator EXON. Give us just a ballpark figure. If hostilities should break out and the on the scene commander decides he requires fighter aircraft, how much elapsed time would there be from that request to the Navy aircraft taking off from the carriers and reaching the point of combat in the area of the Straits of Hormuz?

Is it 20 minutes? Is it half an hour? About what is it?

Admiral FOGARTY. Well, I can tell you what happened that day. There was about 4 minutes from time of telling the carrier battle group to get the aircraft airborne until they were airborne. This was actually on that day.

Now, where the carrier is and where they station their aircraft is different. The normal procedure is, if the threat indicates or the scenario calls for it, the aircraft will be in a position where they can quickly react to whatever the situation is. And of course, that is some distance from where the carrier is.

Senator EXON. Let me ask the question. Maybe you did not understand my question. There were no fighter aircraft involved in this tragic incident at all, were there?

Admiral FOGARTY. No, sir, no aircraft that were in the areas of the *Vincennes,* no.

Senator EXON. When the original battle broke out between the *Vincennes* and the attacking boats from Iran, how long would it have taken had the aircraft commander at that time requested fighter aircraft cover?

Admiral KELLY. Sir, in fact in this case the aircraft were told to launch from the *Forrestal* at time 4:30. They actually launched at time 4:07 and were en route when the shootdown occurred.

They were about, as I recall, some 250 miles from the scene.

Senator EXON. Now we are getting to it. What I am trying to get at, is the time required for those fighters to be on scene above the *Vincennes*?

Admiral KELLY. Generically, sir, somewhere in the vicinity of 20 to 25 minutes.

Senator **Exon**. Then let us say in the area of half an hour, that would be the general area. Admiral, are you satisfied with a situation in the gulf where it takes us up to one-half hour to get aircraft to a point of combat?

Admiral **Fogarty**. Sir, that was not part of my investigation. Of course, we like to have all the power that we can have to bear there.

For the threat that day, which was small boats, possible aircraft in the area, I believe, since you are asking me, that there was adequate force and power there. However, I agree with you, the more firepower you have in the area of a possible confrontation, the better your chance of success.

Senator **Exon**. Thank you, Admiral.

I just wanted to make that final point, Mr. Chairman, that this Senator from the beginning has been insisting that if we have people at risk over there, we should have more aircraft cover, including the availability if we need them of assistance from the Air Force.

Thank you very much, Admiral. Thank you, Mr. Chairman.

Chairman **Nunn**. Thank you, Senator Exon.

Admiral, I just have a few more questions here. We may have follow-up questions later on, but we appreciate your patience this morning.

Your report, as I understand it, did not really get into the surface engagement in great detail, did you? Or did you go into the surface engagement that was occurring while all of the air engagement was also under consideration?

Admiral **Fogarty**. Senator, we looked at the surface engagement as to what led up to it, what involvement the *Vincennes* and the *Montgomery* had in it, the situation as far as time, distance, position, and all that. We did not get into the second by second granular details, as we did with the air incident, no.

But I felt we had a pretty good appreciation of what happened in that surface engagement, which is in the investigation.

Chairman **Nunn**. There were some press reports that indicated after the forward gun jammed the *Vincennes* was unable to lower the stern gun enough to hit the close-in Iranian boats.

Did you get into that?

Admiral **Fogarty**. No, sir, that was not the case. In our investigation, in fact, they continued firing after they went into the mount 52 operation.

Chairman **Nunn**. Did they hit anything close in?

Admiral **Fogarty**. Sir, we were unable to get battle damage estimate. The CO of the *Montgomery,* who was on the bridge of the *Montgomery,* believed that he did see one of the Boghammars hit and destroyed.

We do know they fled the area quickly, they dispersed. But we do not have the actual battle damage as to how many were sunk or so forth.

The range of firing, by the way, at that time, I believe was about 6,700, 6,500 yards. So the depression angle would not have come into play with that mount under normal circumstances, and our investigation did not reveal anything about the depression problem with the mount.

Chairman NUNN. I guess my question would be, did you get into anything about whether there is real vulnerability close in, once a small boat gets in close enough to one of the Aegis ships? Do we have a vulnerability at that point, or is someone taking a look at that?

Admiral FOGARTY. Sir, what we do is we put 50 calibers aboard our ships, to make sure that if they do get in close we can take them on. But a good commanding officer will try to maneuver his ship the best he can to not permit that to happen.

And in the case of that day, at the range that the *Vincennes* and the *Montgomery* took on these boats, they were doing just that. He did not want them to close.

But in answer to your question, if they were to close in inside the minimum range, we do have machine guns aboard and also, I believe, it is the Mark 38, is it not, Captain Gee?

Chairman NUNN. That did not happen in this case, then?

Admiral FOGARTY. No, sir, they did not get in that close.

Chairman NUNN. I believe your report, Admiral, indicates that the frigate U.S.S. *Montgomery*, which was something like 8,000 yards from the U.S.S. *Vincennes*, never gained radar contact on the Iranian aircraft, is that correct?

Admiral FOGARTY. Yes, sir. In asking the question, they replied they did not get contact on it.

Chairman NUNN. Is there a reason for that? Should they have gotten radar contact where they were located?

Admiral FOGARTY. Sir, I believe what happened, if they would have been alone out there I am sure that they would have picked up contact on that. Their SPS-40, which is the radar they had, was working.

What is normally the case with a ship like the *Montgomery*, which is basically an anti-submarine warfare ship, and as was the case that day, they were under the tactical command and the AAW protection umbrella of the *Vincennes*.

Vincennes in fact had their AAW protection, and I believe what it was—and again, this is an opinion—is that the crew in the Combat Information Center of the *Montgomery* was involved in the surface engagement, primarily relying on the *Vincennes* to be her AAW protection.

Chairman NUNN. Is that normal?

Admiral FOGARTY. Sir, it is done quite often as a matter of fact, particularly in ASW situations, where you are fighting a submarine at the same time you are fighting the aircraft. You will often give responsibilities to various ships to handle certain warfare responsibilities.

Chairman NUNN. But the *Vincennes* is supposed to be able to simultaneously take on a very large-scale air attack, surface attack, and an ASW attack, is that not correct? Is that not the way it is designed?

Admiral FOGARTY. Yes, sir. She is a multi-threat capable ship.

Chairman NUNN. How about the *Montgomery*? Is it designed for the triple threat, so to speak?

Admiral FOGARTY. I would say they are more designed for the surface and ASW. They are primarily an ASW ship.

Chairman NUNN. Its main talent is not against air?

Admiral **Fogarty**. No, sir.

Chairman **Nunn**. They do have some limited air capability, do they not, anti-air capability?

Admiral **Fogarty**. Their anti-air capability is limited, of course, to their radar, as I mentioned, and their gun and their close-in weapon system which they have. But she is not primarily an AAW ship, as the *Vincennes* is.

Chairman **Nunn**. So, it is not something of concern that that radar on the *Montgomery* did not have contact with the Iranian aircraft? That is not something that caused anybody concern?

Admiral **Fogarty**. No, sir, not that day. In the CO of the *Montgomery*'s mind, he felt very comfortable that he was under the protective umbrella of the *Vincennes*.

Chairman **Nunn**. Captain, some reports have criticized the failure of the radar on the Aegis combat system to detect the Iranian commercial aircraft after its takeoff until it reached 2,500 feet at a distance of 47 miles from the *Vincennes*.

Is that something that concerned you? Would you comment on that?

Captain **Gee**. No, sir, it does not concern me. As a matter of fact, that detection range against—across the horizon for the radar is very good. They probably had some ducting that day. They picked the aircraft up basically after it lifted off deck at 47 nautical miles. The normal radar horizon of the ship in fact is 18 to 20 nautical miles.

And of course, we have to deal with the curvature of the earth. On that particular day, that early detection at that low altitude was probably assisted through some ducting, which is an environment in the gulf where we trap radar waves in ducts and get longer range detections.

My judgment is that the detection performance of the system was fine. I do not see any anomalies.

Chairman **Nunn**. I believe I recall in your summary that one of the things you're looking toward is whether the Aegis large-screen display should be able to be displayed in real time. Is that something you are looking at? Is that a matter of concern?

Captain **Gee**. The large-screen display does display in near-real time. There may be a second or two difference between what the combat decision system is providing to local area operators and what is on the large screen display. Sometimes there is no difference, sometimes maybe a half a second or two.

I think the comment—and this is a comment made by both the Chairman and the Secretary of Defense when they had been down to Wallops, first exposure to it, is they asked us to look into additional ways to perhaps display some critical information.

In their minds, they thought that if we could show the specific altitude in large screen display itself, rather than having to look down to the CRO or the readout might be useful. So based on their desires, we will certainly analyze once again what we are displaying on the large screen displays.

Chairman **Nunn**. All right. Thank you very much.

Admiral, my last question is, if you were trying to capsule this—and I think you have said clearly you do not believe the downing of the Iranian airliner was the result of any negligence or culpable conduct by any naval personnel associated with the incident, is that correct?

Admiral **Fogarty**. That is correct, sir.

Chairman **Nunn**. If you were going to describe it in your words and use the report or whatever your own words are, would you say that errors were made, mistakes were made, but they were not culpable mistakes that amounted to negligence? Is that the way you would capsule it?

Admiral **Fogarty**. Yes, sir, exactly.

Chairman **Nunn**. I am uncomfortable with you accepting my terms. Have you got better terms? Just tell us in your own words how you feel about it.

Admiral **Fogarty**. First of all, sir, I do not believe they purposely shot down a civilian airliner. I think that the reason that they shot at that airplane was the fact that the commanding officer felt, based on the information he had in front of him and the environment at the time, he was being threatened.

And those critical fundamental factors that I mentioned before, I think, were the uppermost thing in his mind. There was no willful distortion of facts that would lead to culpability. There was no willful negligence on anyone's part that would lead to that.

It was just a situation where, the many reasons that went into the captain's mind, he felt that his ship and his crew were being threatened, and that is why he fired.

Chairman **Nunn**. And the mistakes and errors that were made, how would you categorize those? You have made it clear they fall short of what you believe to be negligence or culpability. But how would you describe the mistakes and errors that were made?

Admiral **Fogarty**. I believe there were mistakes, but they were honest mistakes. As I said in my report, sir, I could not reconcile some of the mistakes, particularly the decreasing altitude. It may have been due to stress, it may have been due to an anticipation of something happening. I was just unable to reconcile that.

Chairman **Nunn**. Thank you very much, Admiral.

I again express appreciation, I believe on behalf of the whole committee, for you and your whole team undertaking a most difficult assignment. We appreciate it. We will probably have further questions and follow-up.

Senator Levin, do you have any other questions? I am going to leave you to adjourn the hearing when you conclude.

We appreciate all of you being here. Admiral Kelly, we thank you and the members of the Joint Staff. Captain Gee, we appreciate your being here.

Senator **Levin**. I just have a few more questions. First, the chairman has asked you about the surface battle issue. There was an article that appeared in the Chicago Tribune, I believe, which said that the Iranians were raking the starboard side with machine gun fire and the 9,000-ton cruiser did not have a single weapon on board to shoot back.

I take it from your testimony that is absolutely wrong?

Admiral **Fogarty**. Absolutely incorrect.

Senator **Levin**. Did you reach any conclusion about the effectiveness of the *Vincennes* relative to the surface battle in your report?

Admiral Fogarty. Sir, I said it was effective. As I mentioned, we were unable to get exact battle damage. But an effective mission is one where the enemy does not get to you and cause damage. So I would consider this an effective mission. They did disperse and head back towards Iran.

The commanding officer of the *Montgomery* felt that there was one that was severely damaged and possibly sunk. I could not verify that actually happened.

Senator Levin. There were a number of errors, as you pointed out, mistakes that were made, including what was stated to be the facts, which turned out later not to be the facts, the honestly held belief of the crew of the *Vincennes* that it was an F-14, that it was descending.

Those were immediately stated to the world and they were honestly held. In your opinion, I think in all of our opinions, too, there was no basis for any other conclusion than that they honestly held those beliefs, as far as I know.

There was also a statement made that the plane was outside of the traditional air corridor for commercial airplanes. What was the basis of that?

Admiral Fogarty. It was not outside the air corridor, sir. It was off the center line of that corridor.

Senator Levin. I understand that. But the first statements that were made were that it was outside of the commercial air corridor, not that it was off-center, but outside of the corridor.

Did anyone in the crew believe that it was outside of the corridor, rather than off-center of the corridor?

Admiral Fogarty. Are you referring to the statements that were made here in Washington, sir?

Senator Levin. Either one. Did anybody in the crew believe that it was outside of the corridor?

Admiral Fogarty. The only belief of the crew was that it was off the center line. The corridor was not really the issue. It was where it was in relation to the center line, because the commanding officer had seen in previous instances that the commercial air followed right along the center line.

Senator Levin. What was then the basis for the statement made here in Washington that it was out of the corridor?

Admiral Kelly. Senator, I think I can address that. As this incident was unfolding and we were preparing to try to explain what happened, the information flow from on scene to those of us in the Pentagon who were trying to piece together for the Chairman what happened just was imperfect.

And that is the information that came back to us, that they were off the airway, I think the Chairman used the figure, about 4 miles. In fact, it was about 4 miles off the center line of the airway.

Senator Levin. So the 4 mile statement that came to us was interpreted as meaning 4 miles outside the corridor, rather than meaning 4 miles off the center.

Admiral Kelly. Yes, sir.

Senator Levin. And that was our incorrect——

Admiral Kelly. I think that was the basis for the information that was put out.

Senator **Levin**. That was our incorrect interpretation of information that came from the scene?

Admiral **Kelly**. Yes, sir.

Senator **Levin**. The tactical information coordinator on the *Vincennes*, the TIC, basically took information, as you I think have stated, and made a mistake about it. The information in front of him was that that plane was climbing. He reached the conclusion the plane was descending.

Is that basically the bottom line?

Admiral **Fogarty**. Yes, sir.

Senator **Levin**. What was his explanation for that? I know you cannot figure it out or do not have an explanation for it other than the stress, which is understandable, and other than your self-fulfilling prophecy or your scenario—what was the word, scenario fulfillment, which is perhaps another way of saying self-fulfilling prophecy. I'm not sure psychologically.

But in any event, what is his explanation for why it was that the panel told him that it was climbing, but he reached the conclusion it was descending?

Admiral **Fogarty**. Sir, that was never ever fully answered. And we tried to get that out of him, because that was the one disparity I keyed in on right away, because the data just did not support that.

Senator **Levin**. He said, I just cannot explain it, or what does he say?

Admiral **Fogarty**. He believed that he saw decreasing altitude, and the only thing we could possibly get close to this on is that he may have—may have, and I could not determine this from the investigation—been interchanging the range and altitude.

There were a few crossover points where it could have been 12 miles, 12,000 feet, and so forth. And as the range decreased, which it was very rapidly, he may have interchanged those. I was unable to prove that.

Senator **Levin**. Does he have any explanation? When you say, how could you have ignored those altitudes on that panel, does he say, I do not know how, or does he say, I was under stress? Or what is his answer?

Admiral **Fogarty**. He never adequately answered it, sir, nor could I get that out of him. He just could not answer the question adequately enough to say, that is exactly what was in his mind. That was one of the reasons I felt there may be some stress involved.

Senator **Levin**. So that that conclusion of the possibility of stress or attack fixation is really your conclusion? It is not something that came from his own recollection?

Admiral **Fogarty**. That conclusion or opinion, sir—and it was "might have been"—was based on the fact that the medical personnel that I called later in the investigation, because of this very reason—I could not reconcile this difference—believe that that may have been one of the causes of his distorting the data.

Senator **Levin**. My last question has to do again with the scheduling of that commercial airliner, because it is something that I do not quite understand the relevance of the fact that it left 27 minutes after schedule or 18 minutes after schedule.

What is the relevance of the fact that it left after it was scheduled to leave, unless the crew looked at a schedule and said something like, well gee, that could not be commercial because the commercial would have left 18 minutes ago, in which case they would have tracked it, I presume. And they knew that they did not track a commercial airliner 18 minutes ago, so they knew it could not have been—what is the relevance of the 18 or 27 minute delay?

Admiral **Fogarty**. It was just a matter of fact that I felt should be brought out, that he did refer to schedule, the plane did leave 27 minutes late. But it is in the final determinant not an important item.

As I said before, a military aircraft could take off at the same time that schedule is.

Senator **Levin**. And if it had left on time, they presumably would have tracked it, right?

Admiral **Fogarty**. They would have tracked anything, on time or off time.

Senator **Levin**. And they knew that they had not tracked a commercial airliner, I presume?

Admiral **Fogarty**. They did not know what it was, sir.

Senator **Levin**. They knew they had not tracked an airplane 18 minutes earlier, did they not? Or were there other airplanes 18 minutes earlier?

Admiral **Fogarty**. There were some airplanes earlier that morning. I will have to look for sure at what the times were.

Senator **Levin**. Would you supply that for the record? Would you let us know whether there were any planes that left that airfield at or about within a few minutes of the scheduled departure time for that commercial airliner? Would you let us know that for the record?

Admiral **Fogarty**. Yes, sir, I can tell you right now that around that time of that scheduled airlift there was not. However, there was earlier than that a P–3, the one that actually was out there, that took off. But I will supply for the record the exact times.

[The information follows:]

The following is information with respect to air activity at the Bandar Abbas airfield on 3 July 1988 during the time period of interest:

0647Z Iran Air 655 takes off.

0654Z Iranian C–130 takes off.

0725Z (approx) a number of Iranian F–4's are observed operating in the area of Bandar Abbas.

Throughout this time period, an Iranian P–3 is operating to the west of U.S.S. *Vincennes*.

Senator **Levin**. You have all been very helpful and we are grateful to you. Thank you.

[Questions for the hearing record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR SAM NUNN

WARNINGS

Senator **Nunn**. Admiral Fogarty, as you know, one of the principal factors cited to justify Captain Rogers' decision to engage the Iranian aircraft was its failure to respond to numerous warnings from U.S. Navy ships. Yet, your report contains the following opinion:

Due to heavy pilot workload during take-off and climb-out, and the requirement to communicate with both Approach Control and Tehran Center, the pilot of Iran Air Flight 655 probably was not monitoring International Air Distress (IAD).

Should the crew of the *Vincennes* have anticipated this possibility?

Admiral FOGARTY. Given the entire context of the unfolding events, I do not consider it reasonable to expect that the crew of the *Vincennes* would have anticipated the workload in the cockpit of an aircraft as it was taking off.

Senator NUNN. Admiral Fogarty, the question of a Mode II squawk appears to be critical. The investigation report indicates that several crew personnel heard a report on internal voice circuits of F-14 activity and a report of a Mode II squawk. The investigation says the crewmen believed this information came from the Ship's Signal Exploitation Space, yet a Chief Petty Officer in that space stated he did not report an F-14. Would you explain the relationship of the Ship's Signal Exploitation Space to the Combat Information Center, why there was confusion on this critical piece of information, and why, apparently, no one in authority tried to clarify the point?

Admiral FOGARTY. The Ship's Signal Exploitation Space (SSES) is that space in the ship, physically separated from CIC, that collects tactical intelligence on a real-time basis. The information is evaluated in the SSES, and if appropriate, is passed to the Combat Information Center for use in the tactical situation.

Several personnel in CIC, including "GW", believed that a report on circuit 15/16 that the contact (Track 4131) was an F-14 originated from SSES. Given that this report was believed to have come from SSES, the inherent credibility of that source, and the rapidly unfolding tactical situation, the decision makers would not have felt the need, nor have had the time to further clarify the point.

From the testimony and interviews that I conducted, the report of a Mode II squawk was not attributed to SSES, but was made by IDS and reportedly observed by several others.

Senator NUNN. Admiral Fogarty, you stated in the investigation report that part of the intelligence information provided to *Vincennes* upon her arrival in the Persian Gulf was that Iranian F-14's could be modified to carry iron bombs and in order to drop them successfully would have to close within 2 nautical miles on the target. Based on this information it would seem the Commanding Officer of *Vincennes* was sensitized to the fact that F-14's could represent a threat to his ship, which, of course, would be contrary to all the press speculation at the time of the incident. Would you elaborate on this point?

Admiral FOGARTY. Without going into specifics on weapons systems, I can say that Captain Rogers was provided with intelligence information that Iran's F-14's could have represented an air-to-surface threat not only with iron bombs, but also from missiles which could have a stand-off release range of from ½ to 13 miles. I cannot comment as to why this possibility was not considered by the press.

Senator NUNN. Admiral Fogarty, there have been media claims that the centerline of the air corridor that the Iranian airliner was flying was not correctly shown on the Aegis system's video displays. Is this correct? If so, did this error contribute to the accidental shootdown?

Admiral FOGARTY. The investigation disclosed the centerline of the airway as represented on the Aegis system's video display was drawn approximately 1.5 miles to the west of the actual centerline of the airway. Since Flight 655 was always to the west of the actual centerline (and to the west of the centerline on *Vincennes* Aegis system's video display), this slight error did not contribute to the incident.

LOW-INTENSITY CONFLICT ENVIRONMENT

Senator NUNN. Admiral Fogarty, one of the recommendations contained in the report of investigation was a request that the Chief of Naval Operations develop training enhancements for ships expected to operate in dense air traffic environments in Third World/low intensity conflict situations where such conditions may provide "cover" for hostile military aircraft.

My question is why should we accept such conditions? Can't our low intensity conflict doctrine include provisions for the establishment of safe corridors for commercial traffic away from likely areas of conflict? Why shouldn't we control the environment rather than simply accepting handicaps established by civilian air routes?

Admiral FOGARTY. The exercise of such environmental management authority is certainly appealing from a military perspective. There is, however, no basis in international law for exercising such positive control over the use of international airspace. No country has the right to establish, unilaterally, corridors in international airspace within which commercial traffic must transit. Nevertheless, alteration of established international airways may be pursued with the appropriate civil aviation authorities, principally the International Civil Aviation Organization. To the extent airway modification is feasible in the given context and the international community is willing to cooperate, it may indeed be a means of enhancing the safety of both the military force and civil aviation.

QUESTIONS SUBMITTED BY SENATOR JOHN GLENN

Senator GLENN. Admiral Fogarty, Admiral Kelly, I would like to examine the Commercial Air aspects further. It seems to me that the *Vincennes'* lack of knowledge of the unique problems associated with Commercial Air Traffic in the gulf area may be the Achilles Heel of this tragedy.

Here was a ship that, according to your report, was combat ready in all respects; a state-of-the-art ship whose primary mission was air defense; yet on its arrival in the Persian Gulf, was provided with little information on the complexities of the commercial air traffic in the gulf.

Your report states that nearly *2,000 flights* passed through the Oman center in *just one week*. Ten commercial flights were scheduled out of Bandar Abbas the day of the shoot down.

However, your report further states that "The Commander Joint Task Force Middle East *inchop brief* discusses the commercial air traffic in *general* but does not focus on any specific air routes or schedules." According to your report, the inchop brief only *"alludes"* to the "very complex but ordered" commercial air picture.

Then there is the problem of providing the commercial airline schedules to the ships in the gulf. *Vincennes* did not receive the schedule which listed Iranian Flight 655 until June 28, 4 days before the shoot down. The only commercial IFF information available to *Vincennes* was through a "pass down" item from another ship—not from the Joint Task Force Commander.

Finally, I do not understand why more positive steps were not taken to deconflict commercial air traffic in the gulf when we first established the Joint Task Force over a year ago. According to your report, all that was done on the *Stark* in May 1987 was to update the Notice to Airman (NOTAM) which notified all Persian Gulf countries of additional defense precautions which U.S. warships would be exercising. I might add that the NOTAM was not updated until September 1987.

In my opinion, this was not enough given the extraordinary air traffic density in the Persian Gulf area. I would agree with your recommendation Admiral Fogarty, that all traffic be required to transit the gulf at an altitude of 25,000 feet or higher. But my point is, that I believe that the Joint Task Force Commander or CINCCENT should have established such a procedure for dealing with commercial traffic when we established our Joint Task Force in the gulf over a year ago.

I would be interested in your comments on this aspect of your investigation and if you considered assigning any responsibility for the *Vincennes* shoot down to the Commander of the Joint Task Force of CINCCENT for failure to recognize and establish adequate procedures to deal with Commercial Air Traffic in the gulf.

Admiral FOGARTY. As a result of the *Stark* incident, a warning NOTAM was updated and issued to all Persian Gulf countries (the basic NOTAM has been in effect since February 1985), and the commercial air portion of CJTFME's brief to ships arriving in the Persian Gulf was strengthened. I think it is worthy of noting that there is an essential difference between the character of the *Stark* incident and the *Vincennes* incident: the *Stark* incident was the result of an inadvertent attack on a U.S. ship by a military aircraft. Accordingly, and for good reason, the focus of USCENTCOM and CJTFME efforts in the Persian Gulf air picture have been on the development, implementation, and refinement of procedures to prevent a similar reoccurrence. These procedures had the direct effect of enhancing air safety for both military and civilian aircraft operating in the vicinity of U.S. forces operating in the Persian Gulf.

The International Civil Aviation Organization (ICAO), has sought for some time to open new overland airways in the Persian Gulf, but due to the politics of the region, has been unable to secure the cooperation of the countries involved. The hesitation by GCC states to accept the post-*Stark* incident NOTAM, as well as the post-*Vincennes* incident NOTAM is founded in the sensitivity of these states to anything that could be viewed as impinging on their sovereign prerogatives. The fact that Iranian commercial aircraft now climb to altitude before transiting the gulf was a unilateral decision by the government of Iran, an action independent of the recommendation made in my investigation report. Unfortunately, it has taken an incident such as the downing of Iran Air 655 to get some movement in this area. This endeavor is clearly a multilateral effort which requires the cooperation of GCC states as well as commercial aircraft which overfly the gulf.

A few comments are in order with regard to commercial airline schedules in relation to deconfliction: Flights could vary from appointed times by taking off early or late (the latter being more likely), or by the addition of unscheduled flights. Most important, however, a flight schedule covering a joint military/civilian airfield is nearly useless in a tactical situation where the sortie of military aircraft on a combat mission would be made without regard to scheduled airline traffic, or use scheduled airline departure times for tactical cover. Therefore, I did not consider the issue of commercial airline schedules germane to the *Vincennes* investigation.

It has been said that there were six critical fundamental considerations to the incident that the CO of *Vincennes* could neither control nor discount: *Vincennes* was engaged in intense surface action with Iranian gunboats. The unidentified assumed hostile contact had taken off from an airfield used by military aircraft. The flight was heading directly at *Vincennes* and its range was relentlessly closing. The unknown aircraft radiated no definitive radar emissions. *Vincennes* warnings went unacknowledged and unanswered. The compression of time gave him an extremely short decision window, less than 5 minutes. Additionally, it was only prudent for Captain Rogers to assume that the contact was related to his engagement with the Iranian boats until proven otherwise—the proof never came.

With the aforementioned considerations in mind, there was nothing that I found during the course of my investigation in this regard that would have made me consider assigning any responsibility for the *Vincennes* incident to Commander Joint Task Force Middle East of USCINCCENT.

Senator LEVIN. We will stand adjourned.

[Whereupon, at 12:06 p.m., the committee was adjourned.]

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